Aspire SA80
AcerPower S280
Service Guide

Service guide files and updates are available on the AIPG/CSD web; for more information, please refer to http://csd.acer.com.tw

PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on Aspire SA80/AcerPower S280 service guide.

Date	Chapter	Updates

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Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Overview

The model incorporates the SiS661GX Northbridge (NB) and SiS964L Southbridge(SB) chipsets. The SiS661GX Northbridge chipset features the AGTL & AGTL+ compliant bus driver technology with integrated on-die termination to support Intel Pentium 4 series processors with FSB 800 MHz (by overclocking). The memory controller supports DDR only. It can offer bandwidth up to 3.2 GB/s under DDR400 to sustain the bandwidth demand from host processors. One AGP interface supports AGP 3.0 including 8X/4X data transfers and 8X/4X fast writes protocol.

Features

Processor

- Socket Type : Intel® Socket T
- Processor Type : Intel® Pentium 4 Prescott 775 FSB 533MHz / Intel® Celeron D775 FSB 533MHz
- CPU GHZ : up to 3.2GHz

Chipset

- North Bridge : SiS 661GX
- South Bridge : SiS964

PCB

- Form Factor : Mirco ATX
- Dimension/ Layer : 244mm x 244mm

Memory

- Memory Type : 400 MHz DDR DRAM interface, 2.5V
- No of Channel (Dual/Signal) : Signal
- Socket Type : 184-pin DIMM
- DIMM Slot : 2
- Memorry Max. : Support 128MB, 256MB, 512MB and 1GB DDR memory technologies
- Cpapcity :128MB ~ 2.0GB
- Supports Serial Presence Detect (SPD)
- Supports Suspend to RAM (STR), S3 ACPI state
- Registered DIMMs not supported
- ECC Support : N/A
- Suspend-to-RAM support using CKE

Graphics

- Graphic Port : AGP8X
- AGP Slot : 1
- DVI-Video Interface : N/A
- SiS 661GX with Integrated 2D/3D Graphics Accelerator

PCI

- PCI Slot Type : PCI 2.3, 5V Slots
- PCI Slot : 3

FDD

- Slot Quantity : 1
- Support 1.44MB 3.5” Devices

IDE

- Slot Type: 40 pin IDE slot
- Slot Quantity: 2 x ATA 133
- Transfer rate support:
  - PIO mode: 0/1/2/3/4
  - ATA mode: 33/66/100 port supported
- Storage Type support: HDD/CD-ROM/CD-RW/DVD-ROM/Combo/DVD-RW

Audio

- Audio Type : AC97' Codec
- Audio Channel : 5.1 channel
- Audio Controller /Codec : Realtek ALC655
- Support S/PDIF : Reserve
- ATAPI analog line-level stereo inputs for CD Audio IN
- Audio Connectors/Headers:
  - Vertical or horizontal connector for three mini-audio jacks (Stereo Line In, Stereo Line Out and Stereo Microphone In)

LAN

- Type : RealTek 8201CL
- Supports 10/100MB Ethernet environment
- Reserved disable function on both hardware & BIOS side (Default is enabled).

IEEE 1394

- IEEE 1394 Controller : N/A
- IEEE 1394 Port : N/A

USB

- Controller : SiS 964
- USB Type : 2.0/1.1
- Connectors Quantity: 8
  - Real Panel : 4
  - Internal : 2 for front daughter board, 2 for card reader

BIOS

- BIOS Type : Phoenix Award BIOS
- 4MB Flash BIOS (ISA)
- Award PnP BIOS compatible with SM BIOS 2.3
- ACPI, SMBIOS 2.3, Green and Boot Block.
- Provides DMI 2.0, WFM 2.0, WOL, and SM Bus for system management.

I/O Connector

- Controller : Super I/O ITE 8705F

Rear I/O Connector

- 1 PS/2 Keyboard Port, 1 PS/2 Mouse Port
- 1 Parallel Port, 1 Serial Port
- 1 VGA Port
- 1 10/100 LAN Port
- 4 USB Ports
- 3 ports jack support AC97' audio output

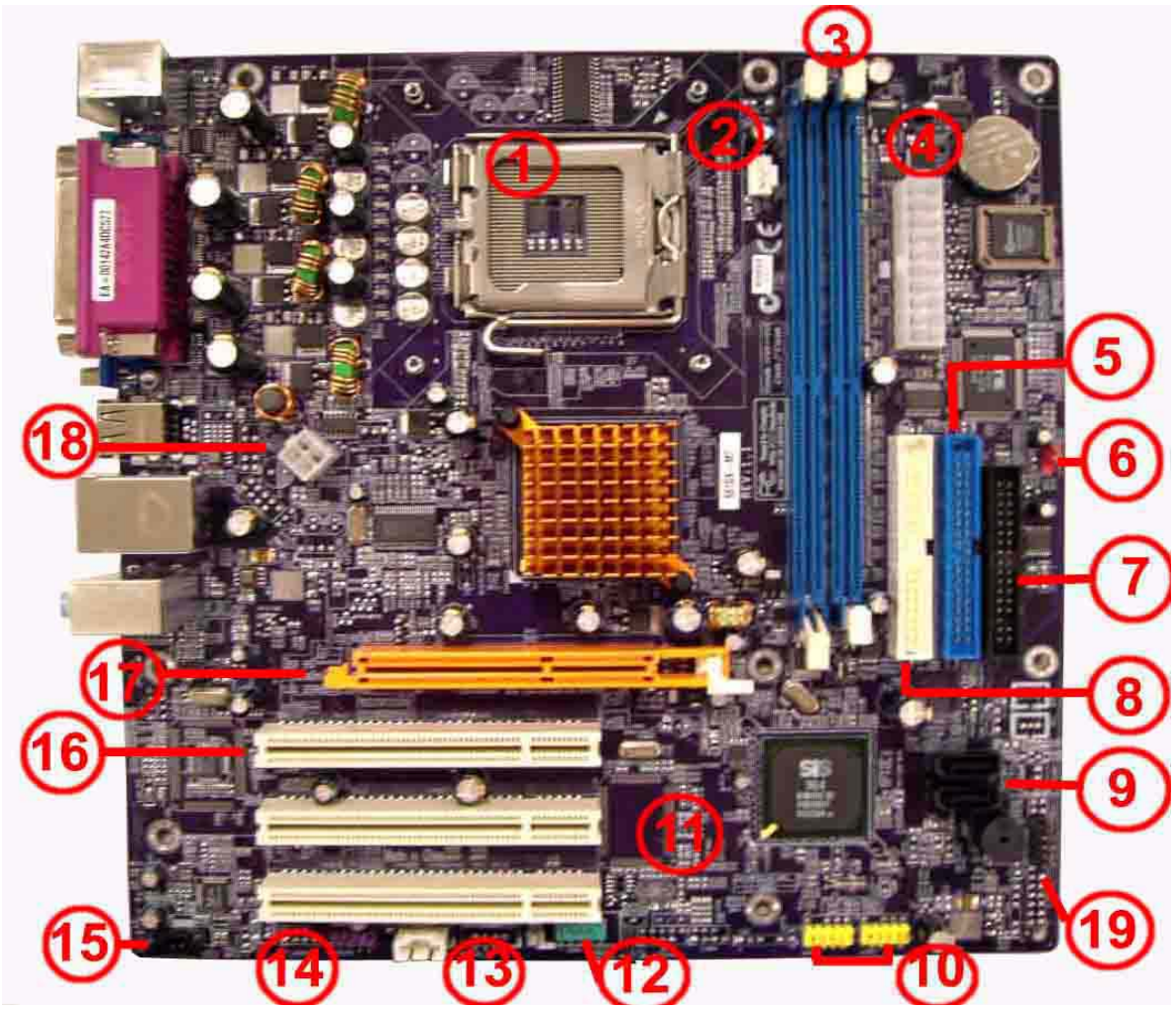
Onboard Connector

- 1 CPU socket
- 2 Memory slots
- 3 PCI slots
- 1 FDD slot
- 2 PATA IDE slot
- 2 SATA IDE connectors
- 2 2*5 pin Intel FPIO sepcification USB pin connectors.
- 1 2*5 pin USB pin connector
- 1 2*5 front audio connector
- 1 serial port pin connector
- 1 CD-IN 4pin connector (CD-ROM/TV Tuner Card Audio Input)
- 1 4pin CPU Fan connector
- 1 20pin+40pin ATX interface PS3/PS2 SPS connector
- 1 2*5 Power/LED

Power Supply

- PSP Type : 230W

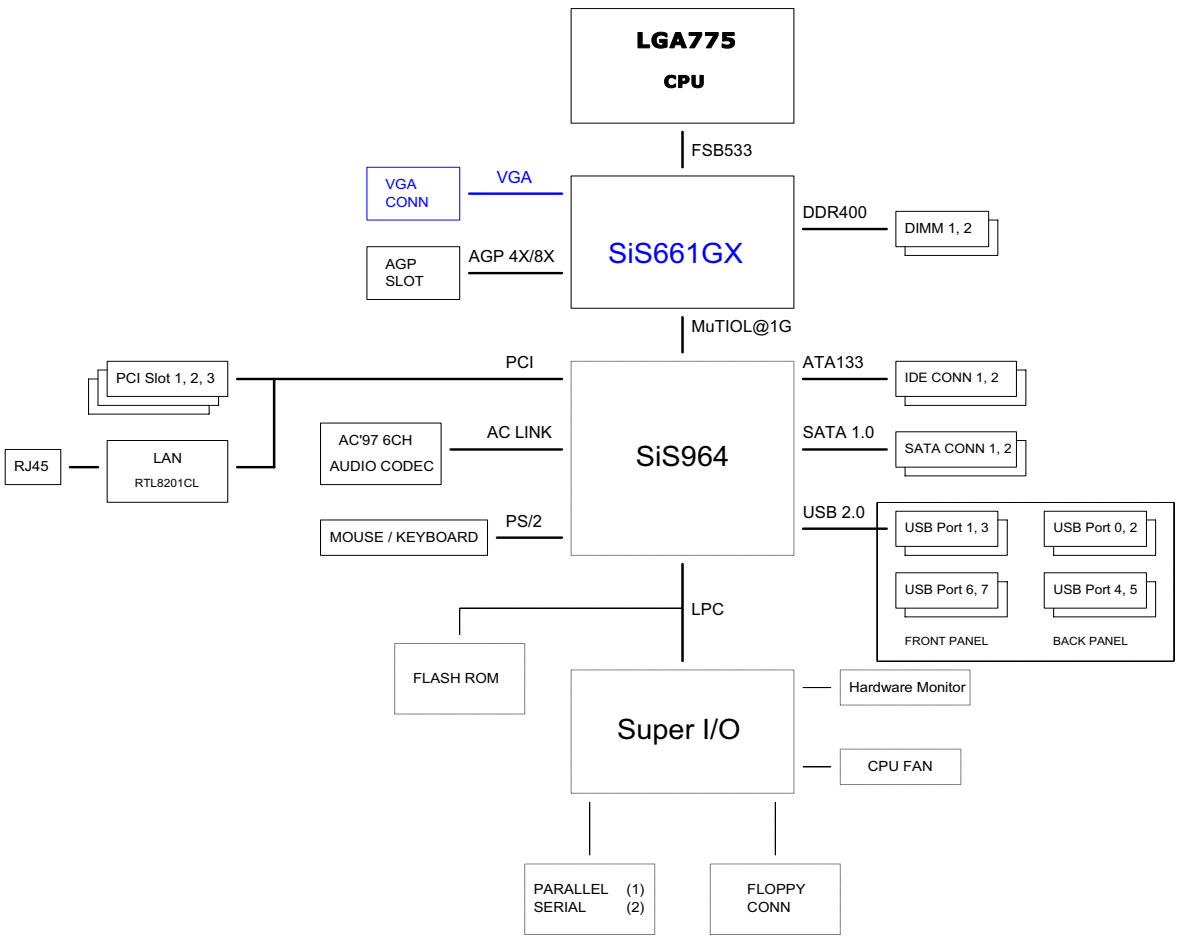
Mainboard Placement



No.	Label	Component
1	CPU	LGA775 socket for Pentium 4 CPU
2	CPU Fan	CPU cooling fan connector
3	DIMM1~DIMM2	Two 184-pin DDR SDRAM slots
4	ATX Power	Standard 20-pin ATX power connector
5	IDE 2	Secondary IDE connector
6	IDE 1	Primary IDE connector
7	FDD	Floppy diskette drive connector
8	CLR_CMOS	Clear CMOS jumper
9	SATA	SATA
10	USB3-4	Front Panel USB headers
11	BIOS_WP	BIOS flash protect jumper
12	COM2	Onboard serial port header
13	AUX-IN	Auxiliary in connector
14	AUDIO1	Front panel audio header

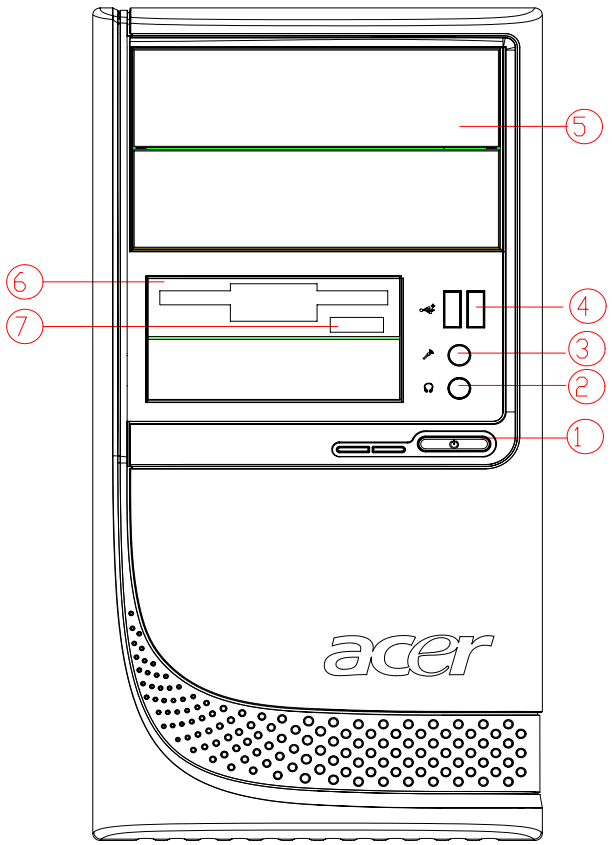
No.	Label	Component
15	CD_IN	Analog audio input connector
16	PCI1~PCI3	32-bit add-on card slots
17	AGP	Accelerated Graphics Port slot
18	ATX12V	4-pin 12V power connector
19	Panel	Front panel switch/LED header

Block Diagram



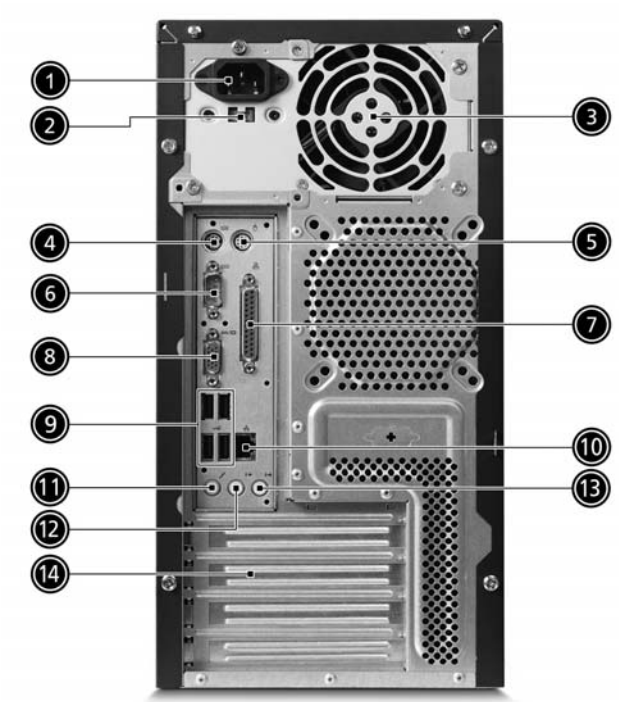
Aspire SA80 Front Panel

The computer's front panel consists of the following:



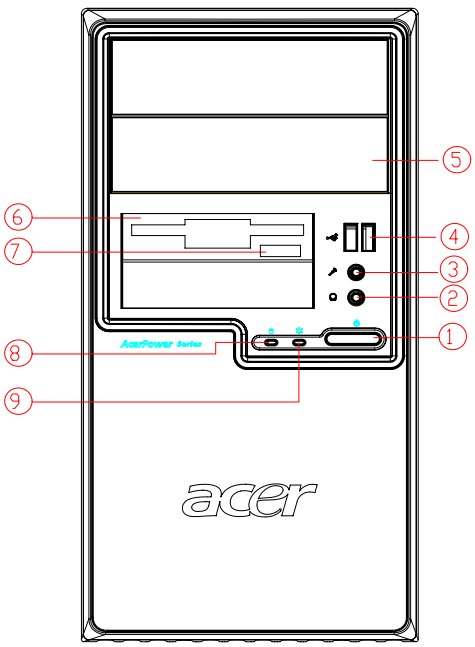
Label	Description
1	Power-Button
2	Speaker-out/Line-out Port
3	Microphone-in out (Front)
4	USB Ports
5	Optical drive
6	3.5 inch Floppy disk drive
7	Floppy drive eject button

Aspire SA80 Rear Panel



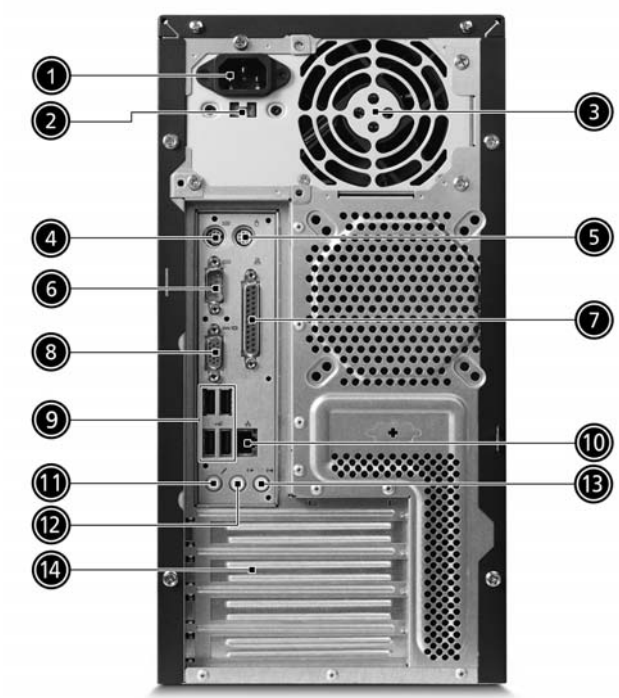
No.	Description	No.	Description
1	Power cord socket	2	Voltage selector switch
3	Fan aperture	4	PS/2 keyboard connector
5	PS/2 mouse connector	6	Serial port
7	Printer connector	8	Monitor connector
9	USB 2.0 ports	10	RJ-45 Ethernet connector
11	Microphone jack	12	Line-out Jack
13	Line-in jack	14	Extension card slots

AcerPower S280 Front Panel



Label	Description
1	Power-Button
2	Speaker-out/Line-out Port
3	Microphone-in out (Front)
4	USB Ports
5	Optical drive
6	3.5 inch Floppy disk drive
7	Floppy drive eject button
8	HDD LED
9	Power LED

AcerPower S280 Rear Panel



No.	Description	No.	Description
1	Power cord socket	2	Voltage selector switch
3	Fan aperture	4	PS/2 keyboard connector
5	PS/2 mouse connector	6	Serial port
7	Printer connector	8	Monitor connector
9	USB 2.0 ports	10	RJ-45 Ethernet connector
11	Microphone jack	12	Line-out Jack
13	Line-in jack	14	Extension card slots

System Peripherals

The Aspire S Series computer consist of the system itself, and system peripherals, like a mouse, keyboard and a set of speakers (optional). This section provides a brief description of the basic system peripherals.

Mouse (PS/2 or USB, manufacturing option)

The included mouse is a standard two-button wheel mouse. Connect the mouse to the PS/2 mouse port or USB port on the back panel of the system.

Keyboard (PS/2 or USB, manufacturing option)

Connect the keyboard to the PS/2 keyboard port or USB port on the back panel of the system.

Speakers

For systems bundled with speakers, before powering on the system, connect the speaker cable to the audio out (external speaker) port on the back panel of the system.

For more detailed information about the speakers, please refer to the included operating instructions.

NOTE: speakers are optional and the appearance might be different depending on the actual product.

Acer eRecovery

Acer eRecovery is a tool to quickly backup and restore the system. Users can create and save a backup of the current system configuration to hard drive, CD, or DVD.

Acer eRecovery consists of the following functions:

1. Create backup
2. Restore from backup
3. Create factory default image CD
4. Re-install bundled software without CD
5. Change Acer eRecovery password

Create backup

Users can create and save backup images to hard drive, CD, or DVD.

1. Boot to Windows XP
2. Press **<Alt>+<F10>** to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select **Recovery settings** and click **Next**
5. In the Recovery settings window, select **Backup snapshot image** and click **Next**.
6. Select the backup method.
   - ❑ Use **Backup to HDD** to store the backup disc image on drive D:.
   - ❑ **Backup to optical device** to store the backup disc image on CD or DVD (only available on systems that include an optical disc burner).
7. After choosing the backup method, click **Next**.

Follow the instruction on screen to complete the process.

Restore from backup

Users can restore backup previously created (as stated in the **Create backup** section) from hard drive, CD, or DVD.

1. Boot to Windows XP.
2. Press **<Alt>+<F10>** to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select **Recovery actions** and click **Next**.
5. Select the desired restore action and follow the onscreen instructions to complete the restore process.

Create factory default image CD

When the System CD and Recovery CD are not available, you can create them by using this feature.

1. Boot to Windows XP.
2. Press **<Alt>+<F10>** to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select **Recovery settings** and click **Next**.
5. In the Recovery settings window, select **Burn image to disc** and click **Next**.
6. In the Burn image to disc window, select **01. Factory default image** and click **Next**.

7. Follow the instructions on screen to complete the process.

Re-install bundled software without CD

Acer eRecovery stores pre-loaded software internally for easy driver and application re-installation.

1. Boot to Windows XP.
2. Press **<Alt>+<F10>** to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select Recovery actions and click **Next**.
5. In the Recovery settings window, select **Reinstall applications/drivers** and click **Next**.
6. Select the desired driver/application and follow the instructions on screen to re-install.

At first launch, Acer eRecovery prepares all the needed software and may take few seconds to bring up the software content window.

Change Password

Acer eRecovery and Acer disc-to-disc recovery are protected by a password that can be changed by the user. Follow the steps below to change the password in Acer eRecovery.

1. Boot to Windows XP.
2. Press **<Alt>+<F10>** to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select **Recovery settings** and click **Next**.
5. In the Recovery settings window, select **Password**: **Change Acer eRecovery password** and click **Next**.
6. Follow the instructions on screen to complete the process.

Acer disc-to-disc recovery

Restore without a Recovery CD

This recovery process helps you restore the C: drive with the original software content that is installed when you purchase your notebook. Follow the steps below to rebuild your C: drive. (Your C: drive will be reformatted and all data will be erased.) It is important to back up all data files before you use this option.

1. Restart the system.
2. While the Acer logo is showing, press <Alt>+<F10> at the same time to enter the recovery process.
3. The message "The system has password protection. Please enter 000000:" is displayed.
4. Enter six zeros and continue.
5. The Acer Recovery main page appears.
6. Use the arrow keys to scroll through the items (operating system versions) and press <Enter> to select.

Multilingual operating system installation

Follow the instructions to choose the operating system and language you prefer when you first power-on the system.

1. Turn on the system.
2. Acer's multilingual operating system selection menu will pop-up automatically.
3. Use the arrow keys to scroll to the language version you want. Press <Enter> to confirm your selection.
4. The operating system and language you choose now will be the only option for future recovery operations.
5. The system will install the operating system and language you choose.

Processor

Item	Specification
Type	Pentium 4
Socket	LGA 775
Speed	3.2G
FSB	533MHZ
Minimum operating speed	0 MHz (**If Stop CPU Clock in Sleep State in BIOS Setup** is set to **Enabled**.)

BIOS

Item	Specification
BIOS code programmer	Award
BIOS version	v6.0
BIOS ROM type	Flash ROM
BIOS ROM size	4MB
BIOS ROM package	32-pin DIP package
Support protocol	PCI 2.2, APM1.2, DMI 2.00.1, E-IDE, ACPI 1.0, ESCD 1.03, ANSI ATA 3.0, PnP 1a, Bootable CD-ROM 1.0, ATAPI
Boot from CD-ROM feature	Yes
Support to LS-120 drive	Yes
Support to BIOS boot block feature	Yes

NOTE: The BIOS can be overwritten/upgraded by using the flash utility.

BIOS Hotkey List

Hotkey	Function	Description
DEL	Enter BIOS Setup Utility	Press while the system is booting to enter BIOS Setup Utility.

Main Board Major Chips

Item	Controller
NorthBridge	SiS 661GX
SourthBridge	SiS 964
AGP controller	SiS 661GX
Super I/O controller	ITE8705F
Audio controller	Realtek ALC655
LAN controller	Realtek 8201CL
HDD controller	ITE8705F
Keyboard controller	ITE8705F

Memory Combinations

Slot	Memory Module	Total Memory
Slot 1	128, 256, 512MB, 1GB	128MB~ 1GB
Slot 2	128, 256, 512MB, 1GB	128MB~ 1GB
Maximum System Memory Supported		128MB~2GB

System Memory

Item	Specification
Memory slot number	2 slot
Support memory size per socket	128MB / 256MB/ 512MB/ 1GB
Support maximum memory size	2GB
Support memory type	DDR DRAM
Support memory interface	DDR 400 MHz
Support memory voltage	2.5 V
Support memory module package	184-pin DIMM
Support to parity check feature	Yes
Support to Error Correction Code (ECC) feature	No
Memory module combinations	You can install memory modules in any combination as long as they match the above specifications.

Cache Memory

Item	Specification
First-Level Cache Configurations	
Cache function control	Enable/Disable by BIOS Setup
Second-Level Cache Configurations	
L2 Cache RAM type	PBSRAM
L2 Cache RAM size	Celeron: 128K Intel P4: 256K/512K PreScoot: 1024K
L2 Cache RAM speed	One-half the processor core clock frequency
L2 Cache function control	Enable/Disable by BIOS Setup
L2 Cache scheme	Fixed in write-back

Video Memory

Item	Specification
Memory size	32 MB or above

Video Interface

Item	Specification
Video controller	SiS661GX
Video controller resident bus	AGP bus
Video Interface	4X/8X
AGP Slot	1
Video interface support	Video YUV texture in all texture formats H/W DVD accelerator

Audio Interface

Item	Specification
Audio controller	SiS 964
Audio controller Type	AC'97,ALC655
Audio Channel	5.1ch
Audio function control	Enable/disable by BIOS Setup
Mono or stereo	Stereo
Resolution	20 bits
Compatibility	Sound Blaster Pro/16 compatible Mixed digital and analog high performance chip Enhanced stereo full duplex operation High performance audio accelerator and AC'97 support Full native DOS games compatibility Virtual FM enhances audio experience through real-time FM-to-Wavetable conversion MPU-401(UART mode) interface for wavetable synthesizers and MIDI devices Integrated dual game port Meets AC'97and WHQL specifications
Music synthesizer	Yes, internal FM synthesizer
Sampling rate	48 KHz (max.)
MPU-401 UART support	Yes
Microphone jack	Supported
Headphone jack	Supported

IDE Interface

Item	Specification
IDE controller	SiS 964
IDE controller resident bus	PCI bus
Number of IDE channel	2 x ATA133
Support IDE interface	E-IDE (up to PIO mode-4 and Ultra DMA 33/66/100/133), ANSIS ATA rev.3.0 ATAPI
Support bootable CD-ROM	Yes

Floppy disk drive Interface

Item	Specification
Floppy disk drive controller	ITE8705F
Floppy disk drive controller resident bus	ISA bus
Support FDD format	360KB, 720KB, 1.2MB, 1.44MB, 2.88MB

Parallel Port

Item	Specification
Parallel port controller	ITE8705F
Parallel port controller resident bus	ISA bus
Number of parallel ports	1
Support ECP/EPP	SPP / Bi-directional / ECP / EPP
Connector type	25-pin D-type female connector
Parallel port function control	Enable/disable by BIOS Setup
Optional ECP DMA channel (in BIOS Setup)	DMA channel 1 DMA channel 3
Optional parallel port I/O address (via BIOS Setup)	378h 278h
Optional parallel port IRQ (via BIOS Setup)	IRQ5 IRQ7

Serial Port

Item	Specification
Serial port controller	ITE8705F
Serial port controller resident bus	ISA bus
Number of serial port	2
16550 UART support	Yes
Connector type	9-pin D-type female connector
Optional serial port I/O address (via BIOS Setup)	COM1: 2F8h, 3E8h, 2E8h COM2: 3E8h, 3F8h, 2F8h
Optional serial port IRQ (via BIOS Setup)	COM1: IRQ 3, and 4 COM2: IRQ 4, and 3

USB Port

Item	Specification
Universal HCI	USB 2.0
USB Class	Support legacy keyboard for legacy mode
USB Number	8 (4 rear , 4 internal)

Environmental Requirements

Item	Specifications
Temperature	
Operating	+5°C ~ +35°C
Non-operating	-20 ~ +60°C (Storage package)
Humidity	
Operating	15% to 80% RH
Non-operating	10% to 90% RH
Vibration	
Operating (unpacked)	5 ~ 500 Hz:2.20g RMS random, 10 minutes per axis in all 3 axes 5 ~500 Hz: 1.09g RMS random, 1 hour per axis in all 3 axes

Mechanical Specifications

Item	Specification
Weight One 3 ½ FDD and one 3.5 HDD (without packing)	Varied by local configuration
Dimensions (main footprint)	180(w)x360(H)x420(D)mm

Power Management

Devices	S1	S3	S4	S5
Power Button	ν	ν	ν	ν
USB Keyboard	ν	ν	N/A	N/A
LAN	ν	ν	ν	ν
RTC	ν	N/A	N/A	ν
Modem (Ring)	ν	ν	N/A	ν

- ❑ Devices wake up from S3 should be less than 5 seconds
- ❑ Devices wak up from S5 should be less than 10 seconds

Power Management Function (ACPI support function)

Device Standby Mode

- Independent power management timer for hard disk drive devices (0-15 minutes, time step=1 minute).
- Hard disk drive goes into Standby mode (for ATA standard interface).
- Disable V-sync to control the VESA DPMS monitor.
- Resume method: device activated (Keyboard for DOS, keyboard & mouse for Windows).
- Resume recovery time: 3-5 sec.

Global Standby Mode

- Global power management timer (2-120 minutes, time step=10 minute).
- Hard disk drive goes into Standby mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- Resume recovery time: 7-10 sec.

Suspend Mode

- Independent power management timer (2-120 minutes, time step=10 minutes) or pushing external switch button.
- CPU goes into SMM.
- CPU asserts STPCLK# and goes into the Stop Grant State.
- LED on the panel turns amber colour.
- Hard disk drive goes into SLEEP mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Ultra I/O and VGA chip go into power saving mode.
- Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- Return to original state by pushing external switch button, modem ring in and USB keyboard for ACPI mode.

ACPI

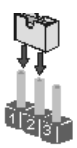
- ACPI specification 1.0b.
- S0, S1, S3 and S5 sleep state support.
- On board device power management support.
- On board device configuration support.

Jumper Setting

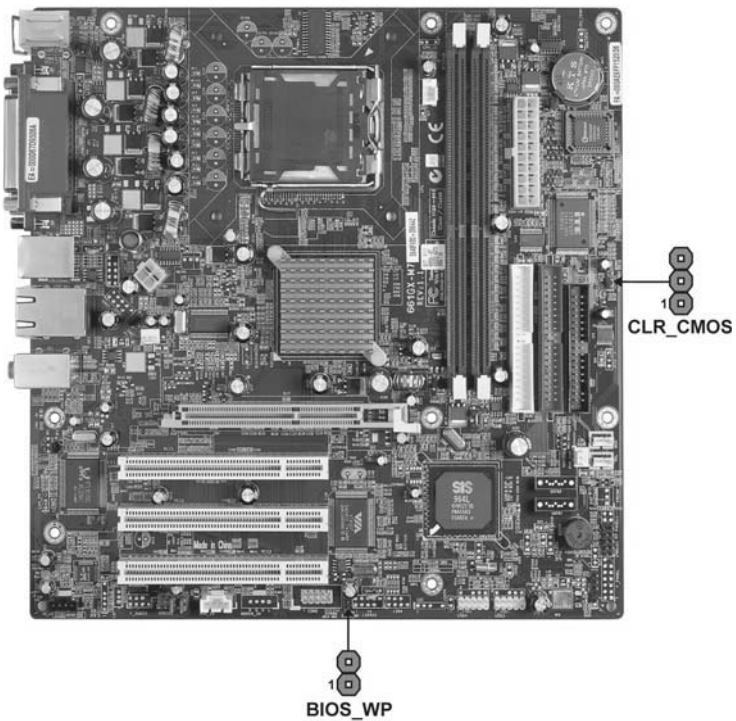
This section explains how to set jumpers for correct configuration of the mainboard.

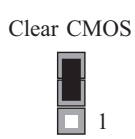
Setting Jumper

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

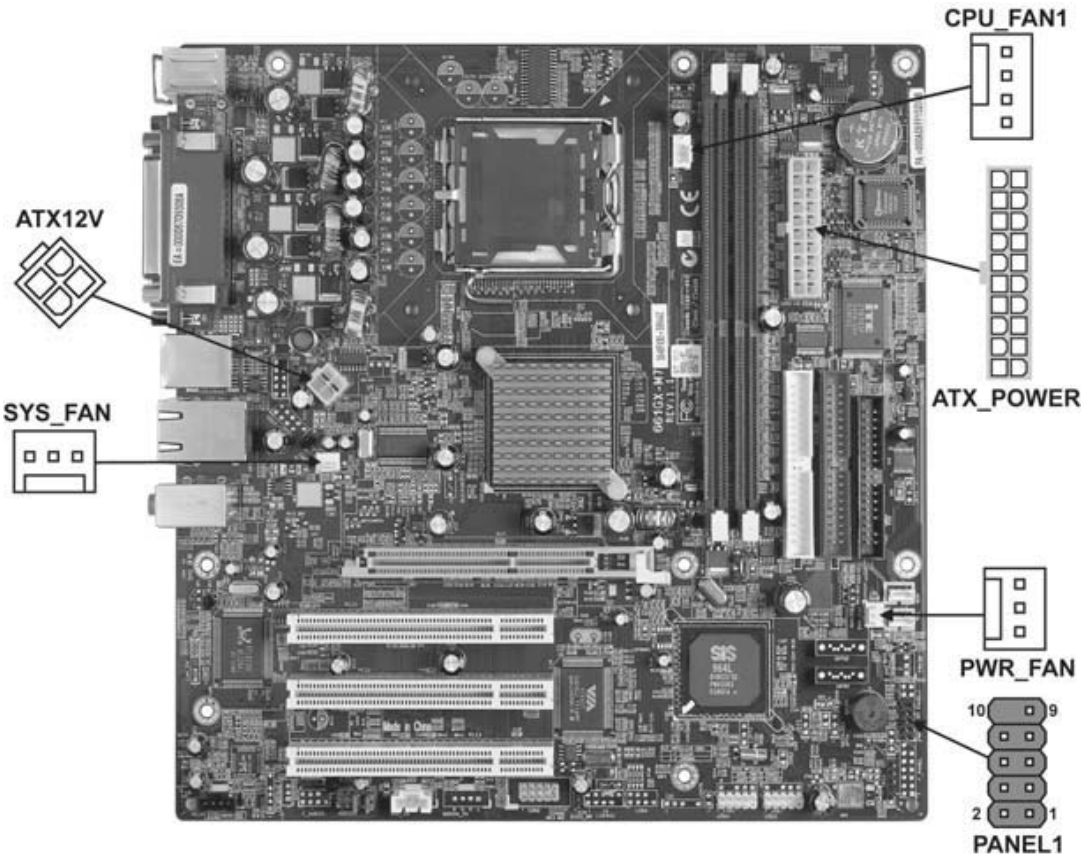
Description	Illustration
The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.	SHORT OPEN
This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT	

Checking Jumper



Jumper	Type	Description	Setting(Default)	Illustration
CLR_CMOS	3-pin	CLEAR CMOS	1-2 : Clear 2-3 : Normal Before clearing the CMOS,make sure to turn off the system	
BIOS_WP	2-pin	BIOS PROTECT	Open: Write Enable Short: Write Disable	

Checking Connector



CPU_FAN: CPU Cooling Fan Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	Control	FAN Control Signal

SYS_FAN/PWR_FAN: FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

ATX_POWER: ATX 20-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS ON#
5	Ground	15	Ground

ATX_POWER: ATX 20-pin Power Connector

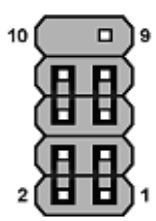
Pin	Signal Name	Pin	Signal Name
6	+5V	16	Ground
7	Ground	17	Ground
8	PWRGD	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

ATX12V: ATX 12V Power Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

Front Panel Header

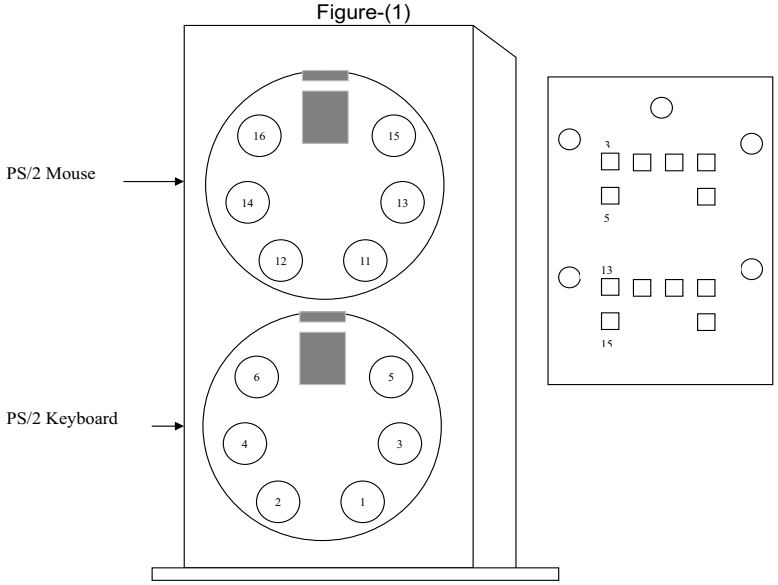
The front panel header (PANEL1) provides a standard set of switch and LED connectors commonly found on ATX or Micro ATX cases. Refer to the table below for information:

Illustration	Pin	Signal	Function	Pin	Signal	Function
 PANEL1	1	HD_LED_P	Hard disk LED+	2	FP PWR/SLP	*MSG LED+
	3	HD_LED_N	Hard disk LED-	4	FP PWR/SLP	*MSG LED-
	5	RST_SW_N	Reset Switch	6	PWR_SW_P	Power Switch
	7	RST_SW_P	Reset Switch	8	PWR_SW_N	Power Switch
	9	RSVD	Reserved	10	Key	No pin

PSKBM1

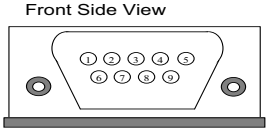
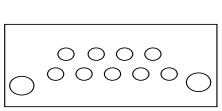
(Front Side View) (Pinout Top-View)

Figure-(1)

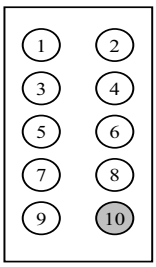


PS/2 Keyboard		PS/2 Mouse	
1	KBDATA	11	MDATA
2	NC	12	NC
3	Ground	13	Ground
4	VCC	14	VCC
5	KBCLK	15	MCLK
6	NC	16	NC

COM1

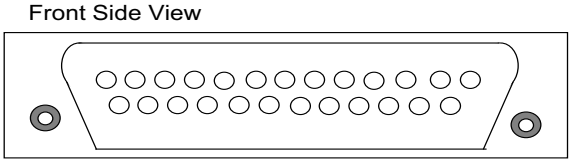
Illustration	Pin	Signal Name
Front Side View  Pinout Top-View  Figure-(2)	1	DCD
	2	RxD
	3	TxD
	4	DTR
	5	Ground
	6	DSR
	7	RTS
	8	CTS
	9	RI

COM2

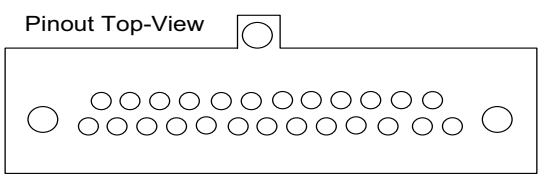
Illustration	Pin	Signal Name	Pin	Signal Name
	1	DCDB	2	RxD
	3	TxD	4	DTRB
	5	Ground	6	DSRB
	7	RTSB	8	CTSB
	9	RI	10	KEY

LPT

Front Side View



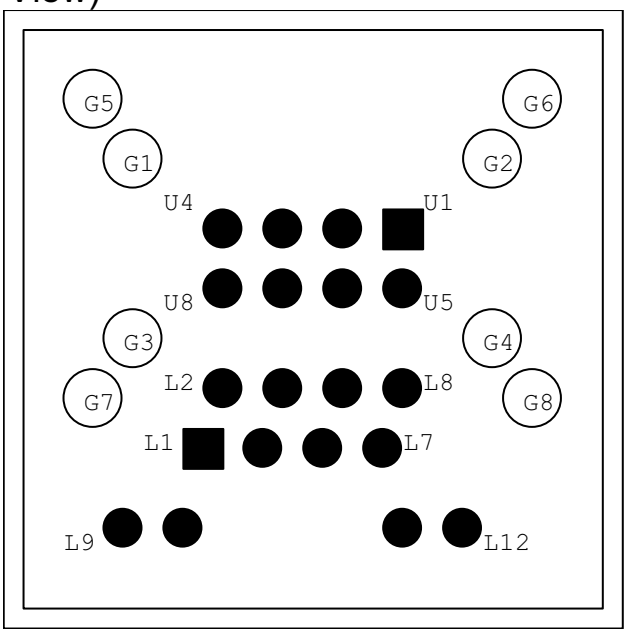
Pinout Top-View



Pin	Signal Name	Pin	Signal Name
1	STROBE	13	SLCT
2	PD0	14	ALF
3	PD1	15	ERROR
4	PD2	16	INIT
5	PD3	17	SLCTIN
6	PD4	18	Ground
7	PD5	19	Ground
8	PD6	20	Ground
9	PD7	21	Ground
10	ACK	22	Ground
11	BUSY	23	Ground
12	PE	24	Ground
		25	Ground

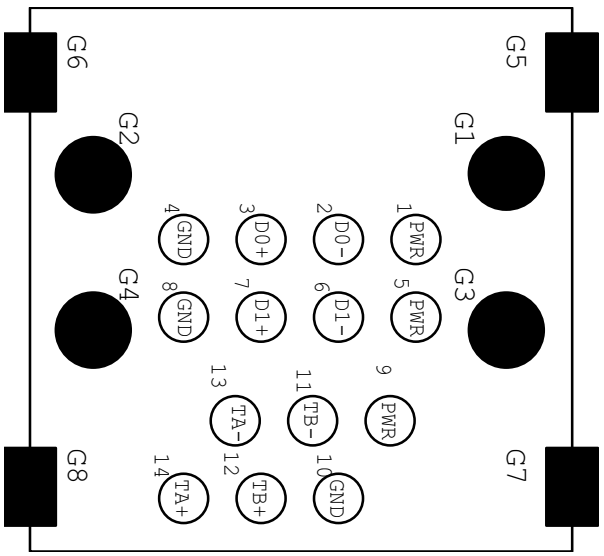
USBLAN1

(Pinout Top-View)



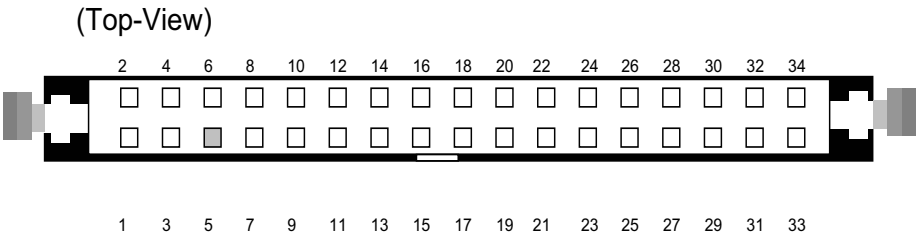
Pin	Signal Name	Pin	Signal Name
U1	VCC	G7	HOLE_LAN
U2	-DATA0	G8	HOLE_LAN
U3	+DATA0	L1	TX+
U4	GND	L2	TX-
U5	VCC	L3	RX+
U6	-DATA0	L4	NC
U7	+DATA0	L5	NC
U8	GND	L6	RX-
G1	HOLE_USB	L7	NC
G2	HOLE_USB	L8	NC
G3	HOLE_USB	L9	LINK
G4	HOLE_USB	L10	VCC
G5	HOLE_LAN	L11	ACT
G6	HOLE_LAN	L12	VCC

USB



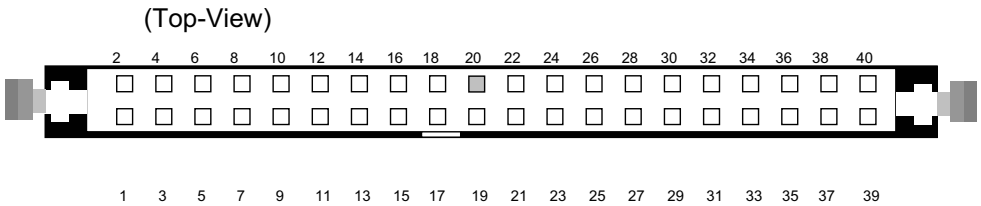
Pin	Signal Name	Pin	Signal Name
1	VCC	9	VP
2	-DATA0	10	VG
3	+DATA0	11	TPB-
4	GND	12	TPB+
5	VCC	13	TPA-
6	-DATA1	14	TPA+
7	+DATA1		
8	GND		
G1	HOLE_USB		
G2	HOLE_USB		
G3	HOLE_USB		
G4	HOLE_USB		

FDD



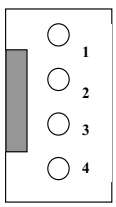
Pin	Signal Name	Pin	Signal Name
1	Ground	2	DRVDEN0
3	Ground	4	HDL-
5	Keypin	6	DS3-
7	Ground	8	INDEX-
9	Ground	10	MTR0-
11	Ground	12	DS0-
13	Ground	14	DS1-
15	Ground	16	MTR1-
17	Ground	18	DIR-
19	Ground	20	STEP-
21	Ground	22	WDATA
23	Ground	24	WGATE-
25	Ground	26	TRK0-
27	Ground	28	WP-
29	Ground	30	RDATA
31	Ground	32	HDSEL-
33	Ground	34	DSKCHG-

IDE1 & IDE2

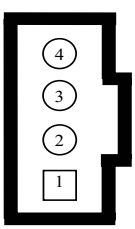


Pin	Signal Name	Pin	Signal Name
1	RESET-	2	Ground
3	DD7	4	DD8
5	DD6	6	DD9
7	DD5	8	DD10
9	DD4	10	DD11
11	DD3	12	DD12
13	DD2	14	DD13
15	DD1	16	DD14
17	DD0	18	DD15
19	Ground	20	Keypin
21	DMARQ	22	Ground
23	DIOW-	24	Ground
25	DIOR-	26	Ground
27	IORDY	28	PSYNC:CSEL
29	DMACK-	30	Ground
31	INTRQ	32	IOCS16-
33	DA1	34	PDIAG-
35	DA0	36	DA2
37	CS1FX-	38	CS3FX-
39	DASP-	40	Ground

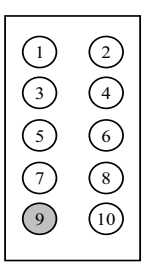
CPU_FAN

Illustration	Pin	Signal Name
(Top-View) 	1	Ground
	2	+12V
	3	Sense
	4	Control

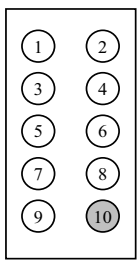
CD_IN

Illustration	Pin	Signal Name
	1	CD_L
	2	GND
	3	GND
	4	CD_R

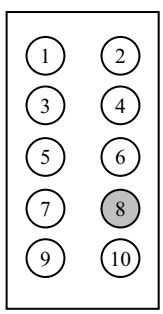
USB3/USB4

Illustration	Pin	Signal Name	Pin	Signal Name
	1	USBPWR0	2	USBPWR1
	3	USB_FP_P0-	4	USB_FP_P1-
	5	USB_FP_P0+	6	USB_FP_P1+
	7	GND	8	GND
	9	KEY	10	USB_FP_OC0

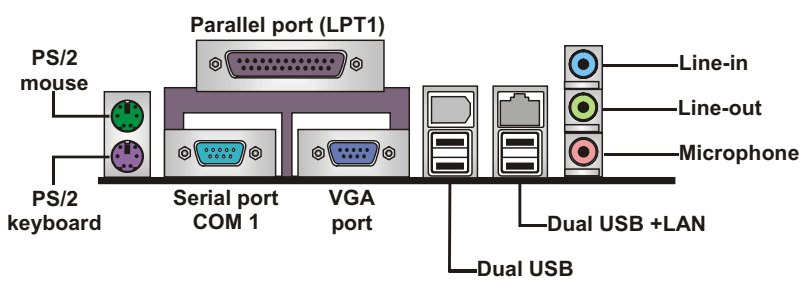
PANEL1

Illustration	Pin	Signal Name	Pin	Signal Name
	1	HD_LED_P	2	PWR_SLP
	3	HD_LED_N	4	PWR_SLP
	5	RST_SW_N	6	PWR_SW_P
	7	RST_SW_P	8	PWR_SW_N
	9	RSVD	10	KEY

AUDIO1

Illustration	Pin	Signal Name	Pin	Signal Name
	1	AUD_MIC	2	AUD_GND
	3	MIC_BIAS	4	AUD_VCC
	5	AUD_F_R	6	AUD_RET_R
	7	REVD	8	KEY
	9	AUD_F_L	10	AUD_RET_L

Rear I/O Panel Connectors



System Utilities

Most systems are already configured by the manufacturer or the dealer. There is no need to run Setup when starting the computer unless you get a Run Setup message.

The Setup program loads configuration values into the battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM.

NOTE: If you repeatedly receive Run Setup messages, the battery may be bad/flat. In this case, the system cannot retain configuration values in CMOS.

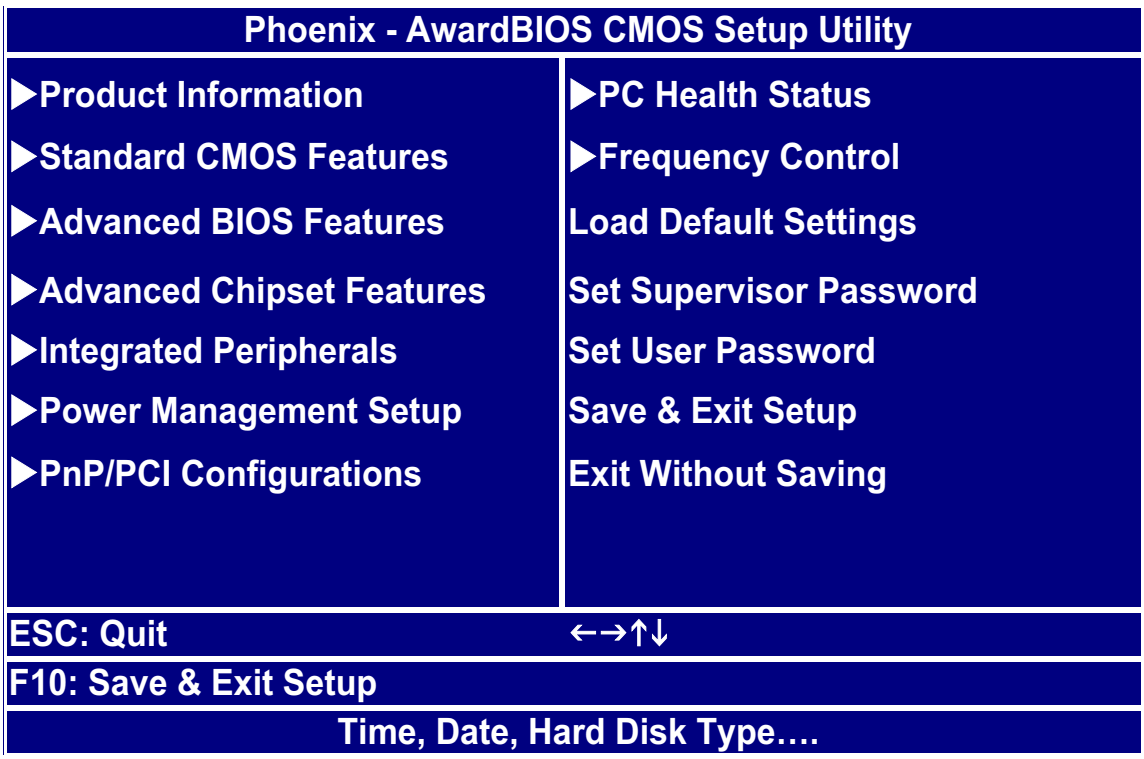
Before you run Setup, make sure that you have saved all open files. The system reboots immediately after you exit Setup.

Entering Setup

Power on the computer and the system will start POST (Power On Self Test)process. When the message of "`Press DEL to enter SETUP`" appears on the screen, press the key of [Delete] to enter the setup menu.

NOTE: If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On. You may also restart the system by simultaneously pressing [Ctrl+Alt+Delete].

The Setup Utility main menu then appears:



The command line at the bottom of the menu tells you how to move within a screen and from one screen to another.

- ❑ To select an option, move the highlight bar by pressing ↑ or ↓ then press ENTER.
- ❑ To change a parameter setting, press ← or → until the desired setting is found.
- ❑ Press ESC to return to the main menu. If you are already in the main menu, press ESC again to exit Setup.

The parameters on the screens show default values. These values may not be the same as those in your system.

The grayed items on the screens have fixed settings and are not user-configured.

NOTE: Due to the application of a new version of BIOS Setup program, you may find the BIOS menu is largely different from the former models. However, you will soon find out that this version is much more compact than the former ones.

The items in the main menu are explained below:

- ***Product Information***

  To introduce the Product Name,System P/N and MainBoard ID...etc.

- ***Standard CMOS Features***

  The basic system configuration can be set up through this menu.

- ***Advanced BIOS Features***

  The advanced system features can be set up through this menu.

- ***Advancted Chipset Features***

  The values for the chipset can be changed through this menu, and the system performance can be optimized.

- ***Integrated Peripherals***

  All onboard peripherals can be set up through this menu.

- ***Power Management Setup***

  All the items of Green function features can be set up throgh this menu.

- ***PnP/PCI Configurations***

  The system's PnP/PCI settings and parameters can be modified through this menu.

- ***PC Health Staus***

  This will display the current status of your PC.

- ***Frequency/Voltage Control***

  Frequency and voltage settings can be loaded through this menu.

- ***Load Default Settings***

  These parameter settings can be loaded through this menu, however, the stable default values may be affected.

- ***Set Supervisor/User Password***

  The supervisor/user password can be set up through this menu.

- ***Save & Exit Setup***

  Save CMOS value settings to CMOS and exit setup.

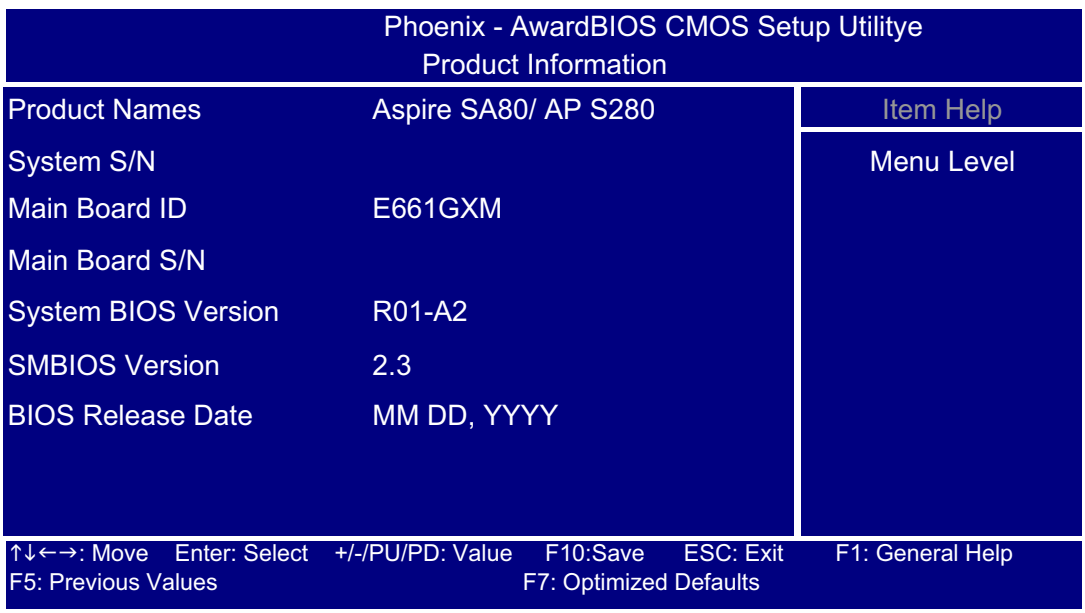
- ***Exit Without Saving***

  Abandon all CMOS value changes and exit setup.

Product Information

The screen below appears if you select Product Information from the main menu:

The Product Information menu contains general data about the system, such as the product name, serial number, BIOS version, etc. These information is necessary for troubleshooting (maybe required when asking for technical support).



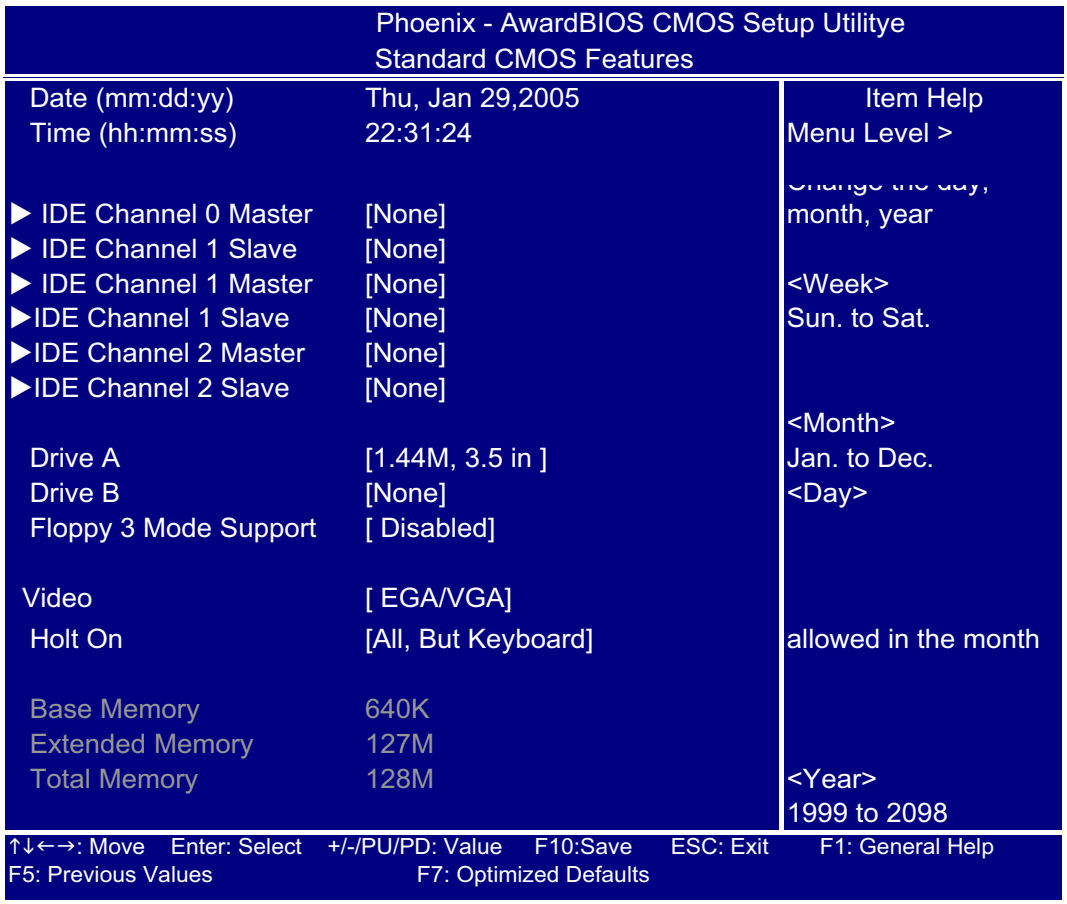
The following table describes the parameters found in this menu:

Parameter	Description
Product Names	Displays the model name of your system.
System S/N	Displays your system's serial number.
Main Board ID	Displays the main board's identification number.
Main Board S/N	Displays your main board's serial number.
System BIOS Version	Specifies the version of your BIOS utility.
SMBIOS version	The System Management Interface (SM) BIOS allows you to check your system hardware components without actually opening your system. Hardware checking is done via software during start up. This parameter specifies the version of the SMBIOS utility installed in your system.
BIOS Release Date	Displays the BIOS latest release date

Standard CMOS Features

Select Standard CMOS Features from the main menu to configure some basic parameters in your system.

The following screen shows the Standard CMOS Features menu:


Phoenix - AwardBIOS CMOS Setup Utilitye
Standard CMOS Features
Date (mm:dd:yy) Thu, Jan 29,2005
Time (hh:mm:ss) 22:31:24
▶ IDE Channel 0 Master [None]
▶ IDE Channel 1 Slave [None]
▶ IDE Channel 1 Master [None]
▶IDE Channel 1 Slave [None]
▶IDE Channel 2 Master [None]
▶IDE Channel 2 Slave [None]
Drive A [1.44M, 3.5 in]
Drive B [None]
Floppy 3 Mode Support [Disabled]
Video [EGA/VGA]
Holt On [All, But Keyboard]
Base Memory 640K
Extended Memory 127M
Total Memory 128M
Item Help
Menu Level >
month, year
<Week>
Sun. to Sat.
<Month>
Jan. to Dec.
<Day>
allowed in the month
<Year>
1999 to 2098
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

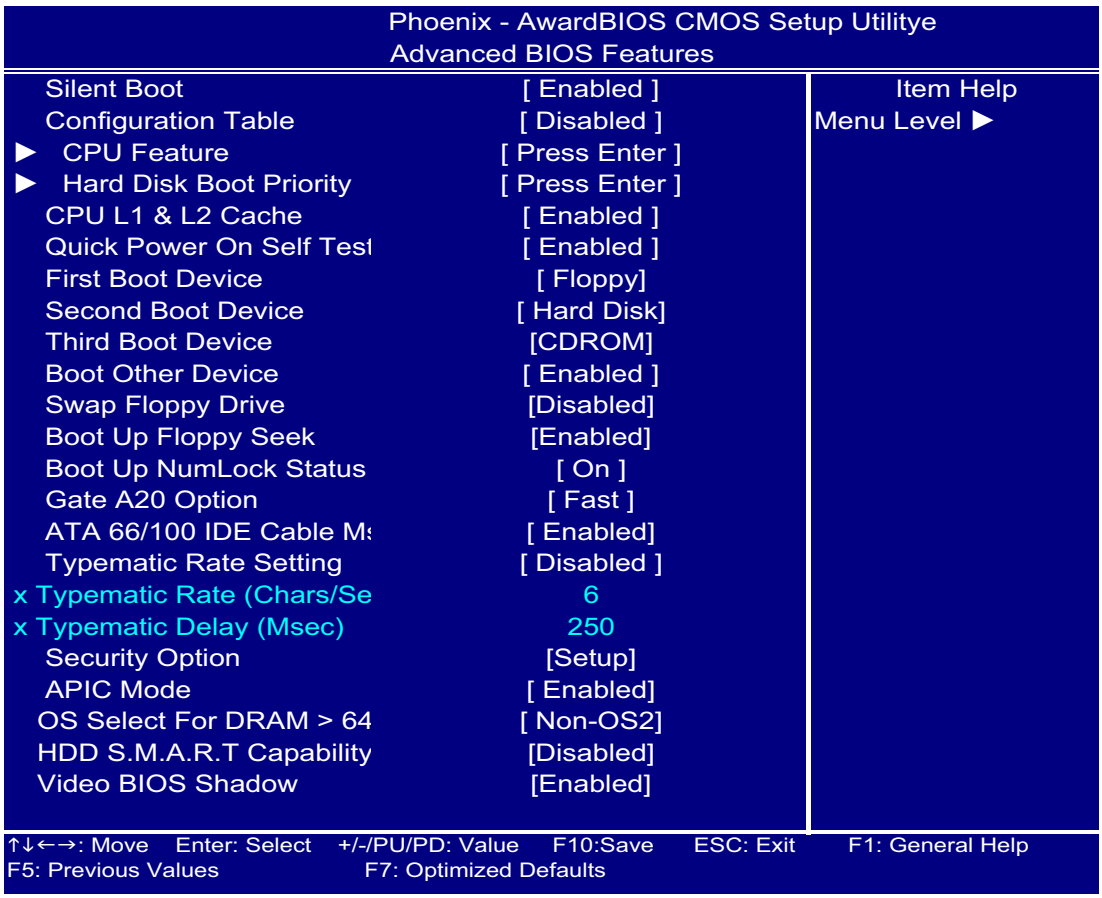
The following table describes the parameters found in this menu. Settings in **boldface** are the default and suggested settings.

Parameter	Description	Options
Date	Lets you set the date following the weekday-month-day-year format	Weekday: Sun, Mon...Sat Month: Jan., Feb...Dec. Day: 1 to 31 Year: 1999 to 2098
Time	Lets you set the time following the hour-minute-second format	Hour: 0 to 23 Minute: 0 to 59 Second: 0 to 59
IDE Channel 0/1 Master/Slave/	Leave this item at Auto to enable the system to automatically detect and configure IDE devices on the channel. If it fails to find a device, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items described below. Please noted that if you choose IDE Channel 2/3 Master, the item may change to Extended IDE Drive.	IDE Device Model Number: None

Parameter	Description	Options
Drive A	Allows you to configure your floppy drive A.	None 360 KB, 5.25-inch 1.2 MB, 5.25-inch 720 KB, 3.5-inch **1.44M, 3.5 - inch** 2.88 MB, 3.5-inch
Drive B	Allows you to configure your floppy drive B.	**None** 360 KB, 5.25-inch 1.2 MB, 5.25-inch 720 KB, 3.5-inch 1.44M, 3.5 - inch 2.88 MB, 3.5-inch
Floppy 3 Mode Support	Floppy 3 mode refers to a 3.5-inch diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.	**Disabled**
Video	This item specifies the type of video card in use. The default setting is VGA/EGA. Since current PCs use VGA only, this function is almost useless and may be disregarded in the future.	**VGA/EGA** CGA40 CGA80 Mono
Halt On	This parameter enables you to control the system stops in case of Power On Self Test errors (POST).	All Errors No Errors **All, but Keyboard** All, but Diskette All, by Disk/Key
Base Memory	Refers to the option of memory that is available to standard DOS programs. DOS systems have an address space od 1MB, but the top 384KB (called high memory) is reserved for system use. This leaves 640 KB of conventional memory. Everything above 1MB is either extended or extended memory.	The BIOS POST will determine the amount of base (or conventional) memory installed in the sytem.
Extended Memory	Memory above and beyond the standard 1MB of base memory that DOS supports. Extended memory is only available in PCs with an Intel 80286 or later microprocessor. Extended memory is not configured in any special manner and is therefore unavailable to most DOS programs. However, MS Windows and OS/2 can use extended memory.	The BIOS determines how much extended memory is present during the POST.
Total Memory	Total based and extended memory, and I/O ROM 384KB available to the system.	total memory of the system.

Advanced BIOS Features

The following screen shows the Advanced BIOS Features:

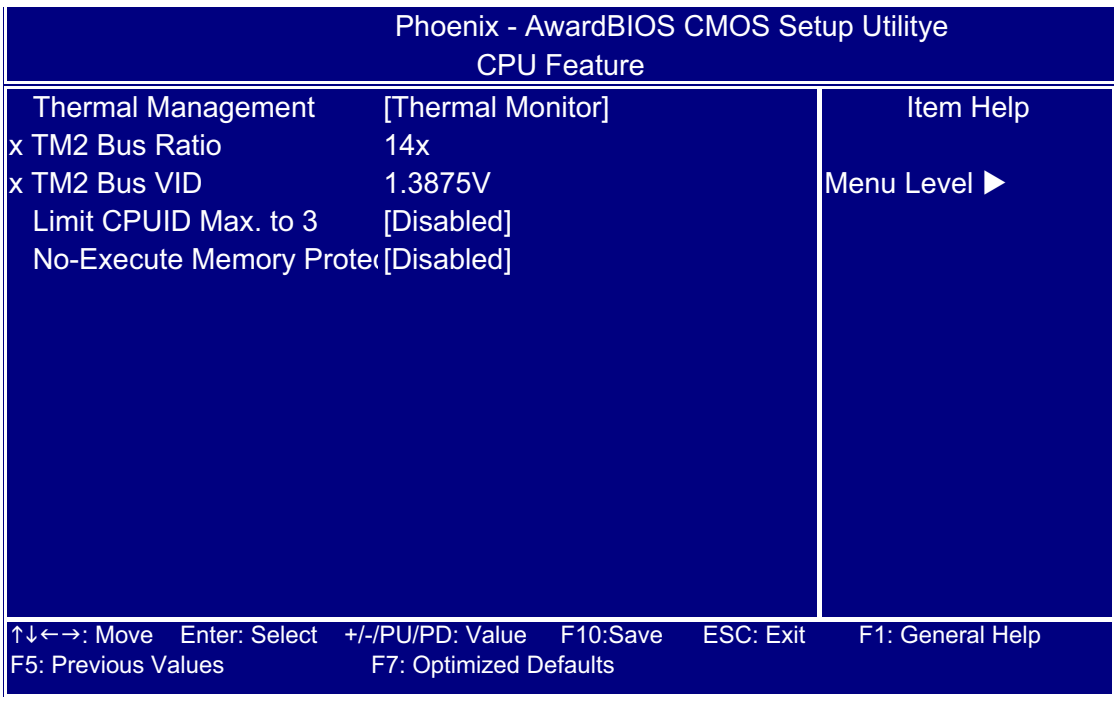

Phoenix - AwardBIOS CMOS Setup Utilitye
Advanced BIOS Features
Silent Boot [Enabled]
Configuration Table [Disabled]
▶ CPU Feature [Press Enter]
▶ Hard Disk Boot Priority [Press Enter]
CPU L1 & L2 Cache [Enabled]
Quick Power On Self Test [Enabled]
First Boot Device [Floppy]
Second Boot Device [Hard Disk]
Third Boot Device [CDROM]
Boot Other Device [Enabled]
Swap Floppy Drive [Disabled]
Boot Up Floppy Seek [Enabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
ATA 66/100 IDE Cable M [Enabled]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Se 6
x Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode [Enabled]
OS Select For DRAM > 64 [Non-OS2]
HDD S.M.A.R.T Capability [Disabled]
Video BIOS Shadow [Enabled]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

The following table describes the parameters found in this menu. Settings in **boldface** are the default and suggested settings.

Parameter	Description	Options
Silent Boot	Display Full Screen LOGO during POST	**Enabled** Disabled
Configuration Table	Enable the Configuration Table function	Enabled **Disabled**
CPU Feature	Select to display CPU Feature	**Press [Enter]**
Hard Disk Boot Priority	Select Hard Disk Boot Device Priority	**Press [Enter]**
CPU L1 & L2 Cache	Uses internal level 1 (L1) and external level 2 (L2) cache memory to improve performance.	Enabled **Disabled**
Quick Power On Self Test	This parameter speeds up POST by skipping some items that are normally checked.	**Enabled** Disabled
First /Second/Third Boot Device	The items allow you to set the sequence of boot device where BIOS attempts to load the disk operating system.	Floppy, LS120, Hard Disk, CD-ROM, ZIP100, USB-FDD, USB-ZIP, LAN, Disabled (Disable this sequence). The sequence following the order of Floppy, HDD and CD-ROM is recommended.
Boot Other Device	This parameter allows you to specify the system boot up search sequence.	**Enabled** Disabled
Swap Floppy Drive	Setting to Enabled will swap floppy drive a: and b:.	Enabled **Disabled**

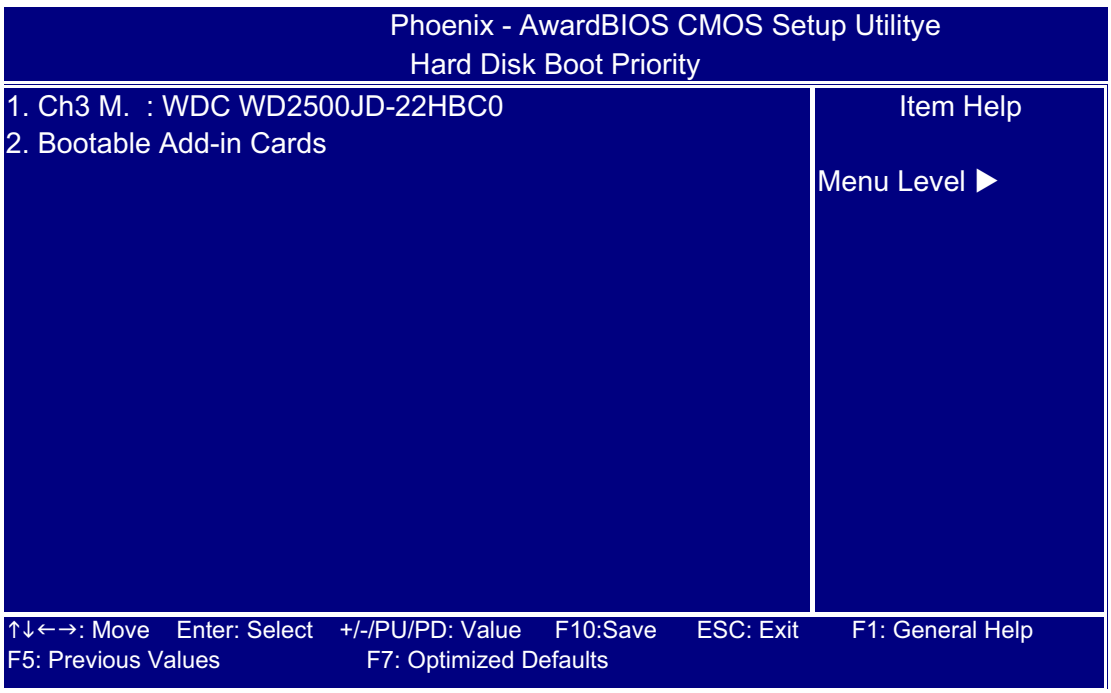
Parameter	Description	Options
Boot Up Floppy Seek	Setting to Enabled will make BIOS seek floppy drive a: before booting the system.	**Enabled** Disabled
Boot Up NumLock Status	Sets the NumLock status when the system is powered on. Setting to On will turn on the NumLock key when the system is powered on. Setting to Off will allows users to use the arrow keys on the numeric keypad.	**On** Off
Gate A20 Option	This item is to set the Gate A20 status. A20 refers to the first 64KB of extended memory. When the default value Fast is selected, the Gate A20 is controlled by port 92 or chipset specific method resulting in faster system performance. When Normal is selected, A20 is controlled by a keyboard controller or chipset hardware.	**Fast** Normal
ATA 66/100 IDE Cable Msg.	This item enables or disables the ATA 66/100 IDE Cable Msg. This message will appear during reboot when you use 40-pin cable on your 66/100 hard disks.	**Enabled** Disabled
Typematic Rate Setting	This item is used to enable or disable the typematic rate setting including Typematic Rate and Typematic Delay.	Enabled **Disabled**
Typematic Rate (Chars/Sec)	Use this item to define how many characters per second are generated by a held-down key.	
Typematic Delay (Msec)	Use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.	
Security Option	Specifies the type of BIOS password protection that is implemented. Setup means that the password prompt appears only when end users try to run Setup. System means that a password prompt appears every time when the computer is powered on or when end users try to run Setup.	**Setup** System
APIC Mode	This field is used to enable or disable the APIC (Advanced Programmable Interrupt Controller). Due to compliance with PC2001 design guide, the system is able to run in APIC mode. Enabling APIC mode will expand available IRQ resources from the system.	**Enabled** Disabled
OS Select For DRAM > 640MB	This item is only required if you have installed more than 64MB of memory and you are running the OS/2 operating system.	**Non-OS2** OS2
HDD S.M.A.R.T Capability	The S.M.A.R.T (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance.	Enabled **Disabled**
Video BIOS Shadow	This item determines whether the BIOS will be copied to RAM for faster execution.	**Enabled** Disabled

CPU Features


Phoenix - AwardBIOS CMOS Setup Utilitye
CPU Feature
Thermal Management [Thermal Monitor]
x TM2 Bus Ratio 14x
x TM2 Bus VID 1.3875V
Limit CPUID Max. to 3 [Disabled]
No-Execute Memory Prote([Disabled]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

Parameter	Description
Thermal Management (Thermal Monitor 1)	This item displays CPU's temperature and enables you to set a safe temperature to Prescott CPU.
TM2 Bus Ratio	This item represents the frequency (bus ratio) of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot).
TM2 Bus VID	This item represents the voltage of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot.
Limit CPUID Max. to 3	This item can support Prescott CPUs for old OS. Users please note that under NT 4.0,it must be set "**Enabled**", while under WinXP, it must be set "**Disabled**".
No-Execute Memory Protect	This item is a security feature that helps you protect your CPU and operating system against malicious software executing code. This item is available when CPU supports the feature.

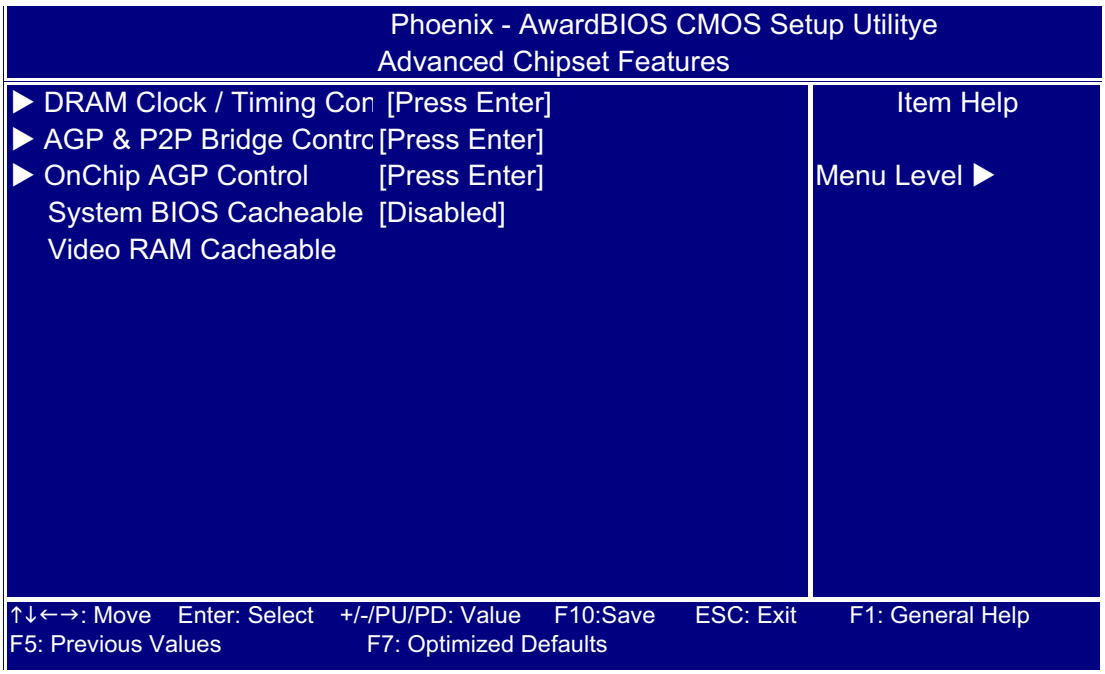
Hard Disk Boot Priority


Phoenix - AwardBIOS CMOS Setup Utilitye
Hard Disk Boot Priority
1. Ch3 M. : WDC WD2500JD-22HBC0
2. Bootable Add-in Cards
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

Advanced Chipset Features

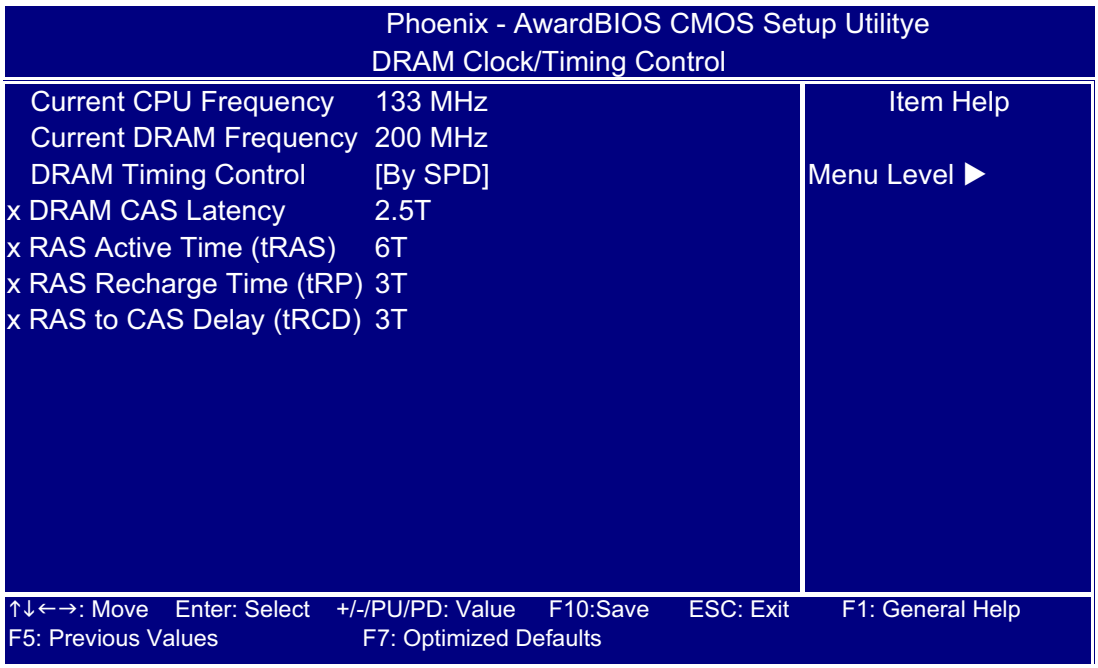
The advanced chipset features setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

NOTE: Change these settings only if you are familiar with the chipset.


Phoenix - AwardBIOS CMOS Setup Utilitye
Advanced Chipset Features
▶ DRAM Clock / Timing Con [Press Enter]
▶ AGP & P2P Bridge Contrc [Press Enter]
▶ OnChip AGP Control [Press Enter]
System BIOS Cacheable [Disabled]
Video RAM Cacheable
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

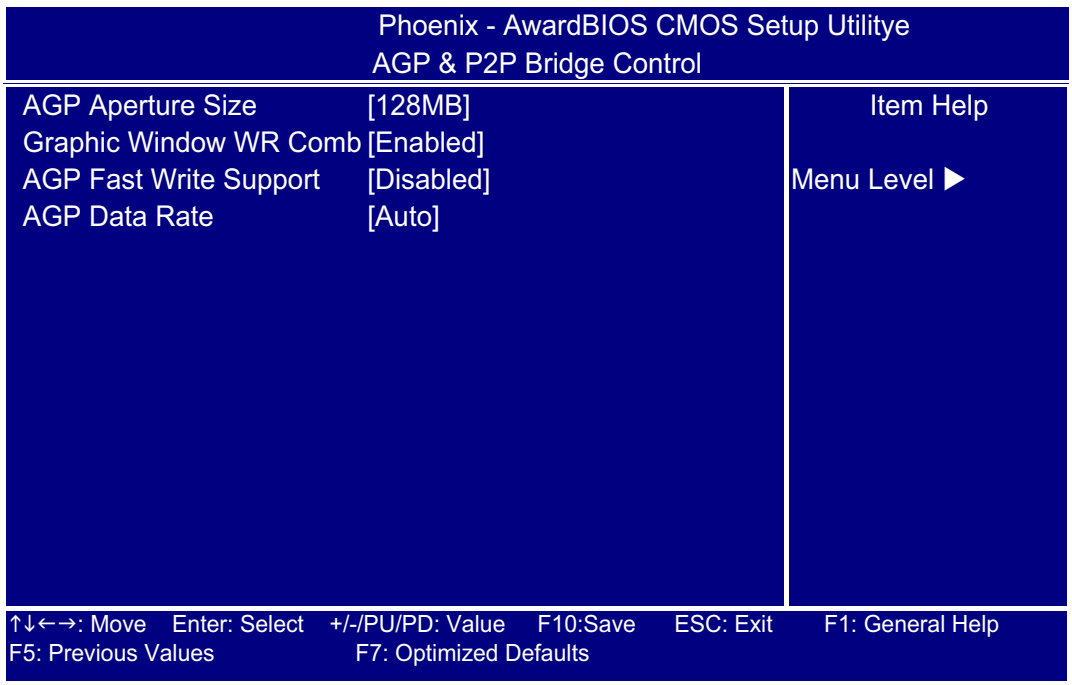
Parameter	Description	Option
DRAM Clock/Timing Control	This submenu is used to set some parameters of memory controller.	**[Press Enter]**
AGP & P2P Bridge Control	This submenu is used to set some parameter of AGP controller	**[Press Enter]**
OnChip AGP Control	This submenu is used to set some parameters of on board VGA	**[Press Enter]**
System BIOS Cacheable	This item will allow the System BIOS fleetness memorize function	**Enabled** Disabled
Video RAM Cacheable	Select “Enabled” to allow caching of the Video RAM which may improve performance. If any other program writes to this memory area, a system error may result.	**Enabled** Disabled

DRAM Clock/Timing Control


Phoenix - AwardBIOS CMOS Setup Utilitye
DRAM Clock/Timing Control
Current CPU Frequency 133 MHz
Current DRAM Frequency 200 MHz
DRAM Timing Control [By SPD]
x DRAM CAS Latency 2.5T
x RAS Active Time (tRAS) 6T
x RAS Recharge Time (tRP) 3T
x RAS to CAS Delay (tRCD) 3T
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

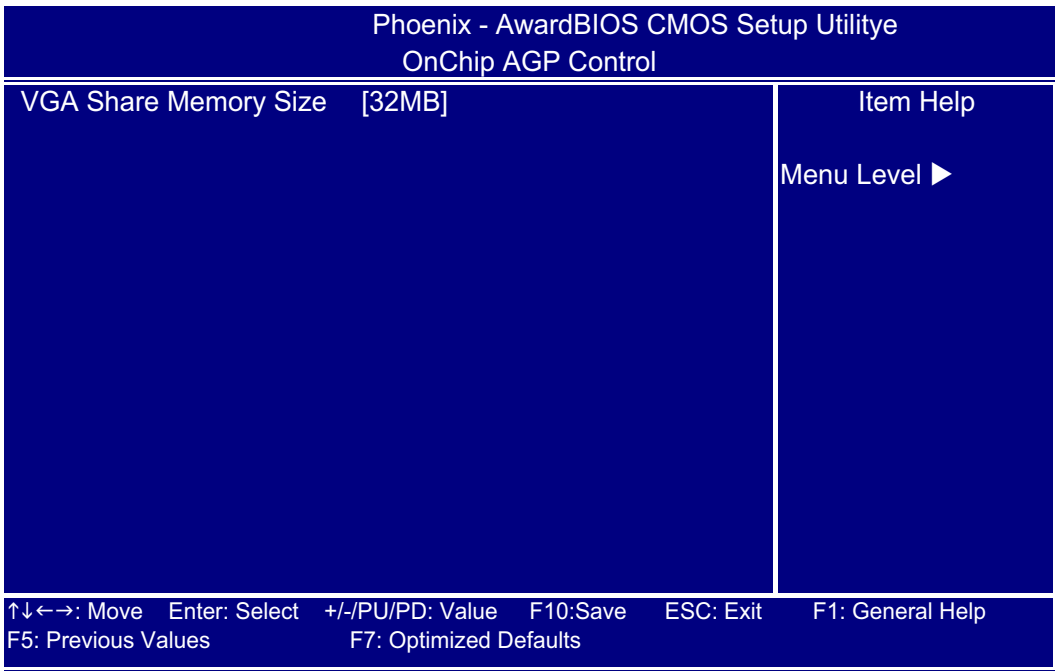
Parameter	Description
Current CPU Frequency	Detect the current CPU Frequency
Current DRAM Frequency	Detect the current DRAM Frequency
DRAM Timing Control	Enables you to select the CAS latency time in HCLKs of 2, 2.5, or 3. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.
DRAM CAS Latency	This item controls the timing delay (in clock cycles) before the DRAM starts a read command after receiving it.
RAS Active Time (tRAS)	This item allows you to set the amount of time a RAS can be kept open for multiple accesses. High figures will improve performance.
RAS Precharge Time (tRP)	This is the duration of the time interval during which the Row Address Strobe signal to a DRAM is held low during normal Read and Write Cycles. This is the munimum interval between completing one read or write and starting another from the same (non-page mode) DRAM. Techniques such as memory interleaving, or use of Page Mode DRAM are often used to avoid this delay. Some chipsets require this parameter in order to set up the memory configuration properly. The RAS Precharge value is typically about the same as the RAM Access (data read/write) time.
RAS to CAS Delay (tRCD)	This is the amount of time a CAS is performed after a RAS. This lower the better, but some DRAM does not support low figures.

AGP & P2P Bridge Control


Phoenix - AwardBIOS CMOS Setup Utilitye
AGP & P2P Bridge Control
AGP Aperture Size [128MB]
Graphic Window WR Comb [Enabled]
AGP Fast Write Support [Disabled]
AGP Data Rate [Auto]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

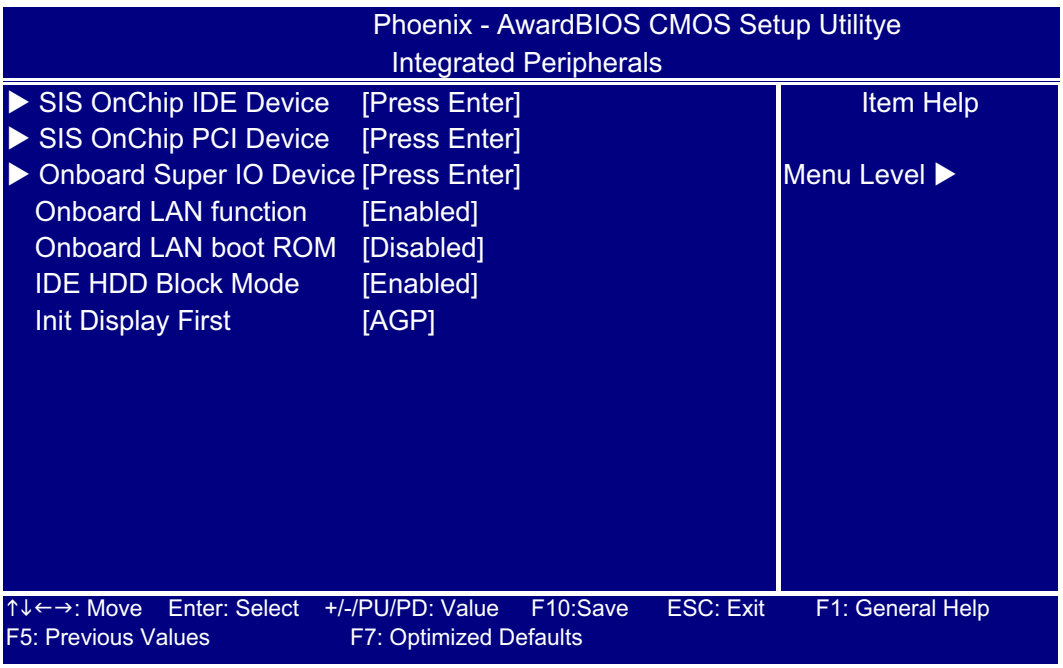
Parameter	Description	Option
AGP Aperture Size	To set AGP Aperture size.(The size of the Memory which shared by AGP and Memory.)	32MB/**64MB**/128MB/256MB/ 512MB
Graphic Window WR Combin	Use this item to enable or disable CPU support for WR Combin feature.	Disabled **Enabled**
AGP Fast Write Support	Support AGP fast write or not.	Disabled **Enabled**
AGP Data Rate	Select AGP Data Rate	**Auto**/1X/2X/4X/8X

Onchip AGP Control


Phoenix - AwardBIOS CMOS Setup Utilitye
OnChip AGP Control
VGA Share Memory Size [32MB]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

Parameter	Description	Option
VGA Share Memory Size	Select VGA Share Memory Size	16MB/**32MB**/64MB/128MB

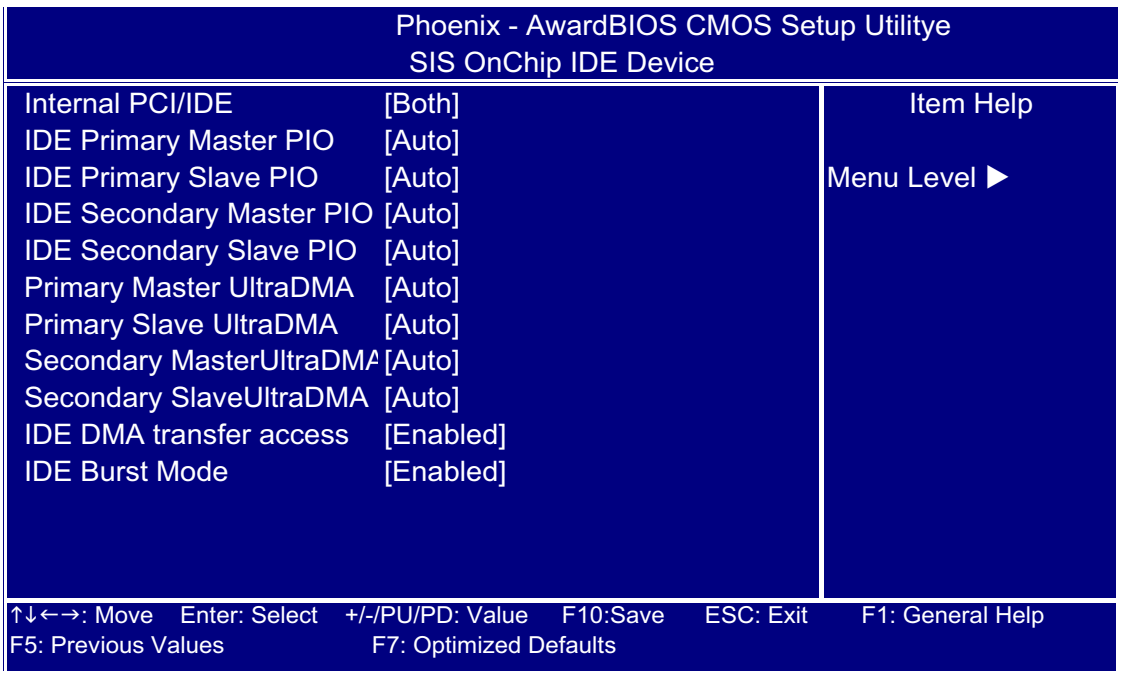
Integrated Peripherals


Phoenix - AwardBIOS CMOS Setup Utilitye
Integrated Peripherals
▶ SIS OnChip IDE Device [Press Enter]
▶ SIS OnChip PCI Device [Press Enter]
▶ Onboard Super IO Device [Press Enter]
Onboard LAN function [Enabled]
Onboard LAN boot ROM [Disabled]
IDE HDD Block Mode [Enabled]
Init Display First [AGP]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

Parameter	Description	Option
SiS OnChip IDE Device	Use the arrow keys to select your options; press <**Enter**> key to enter the setup sub-menu. The options and setting methods are discussed below.	**[Press Enter]**
SIS OnChip PCI Device		**[Press Enter]**
Onboard Super IO Device		**[Press Enter]**
Onboard LAN function	Disabled or Enabled the LAN function	Disabled **Enabled**
Onboard LAN boot ROM	Disabled or Enabled the LAN boot ROM function	**Disabled** Enabled
IDE HDD Block Mode	Block mode is also called block transfer, multiple commands or multiple sector read/ write. If your IDE hard drive supports block mode (most new drives do), select "Enabled" for automatic detection of the optimal number of block read/write per sector the drive can support.	Disabled **Enabled**
Init Display First	If you installed a PCI VGA card and an AGP card at the same time, this item lets you decide which one is the initial display card.	PCI Slot **AGP**

SIS OnChip IDE Device

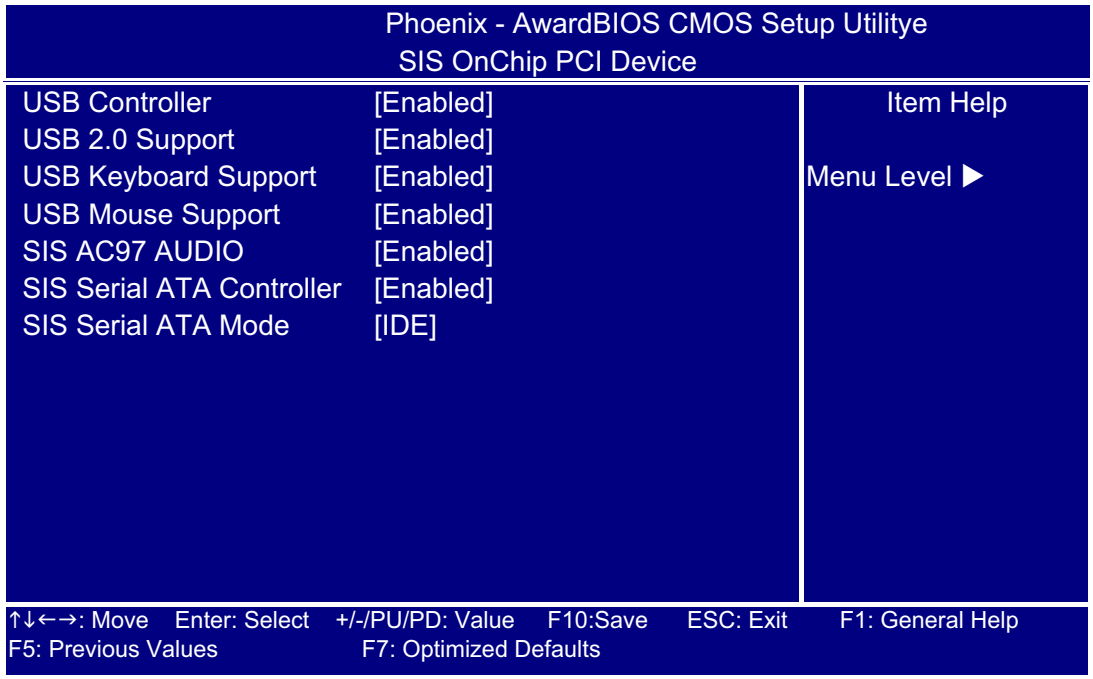
Press [Enter] to enter the sub-menu and the following screen appears:


Phoenix - AwardBIOS CMOS Setup Utilitye
SIS OnChip IDE Device
Internal PCI/IDE [Both]
IDE Primary Master PIO [Auto]
IDE Primary Slave PIO [Auto]
IDE Secondary Master PIO [Auto]
IDE Secondary Slave PIO [Auto]
Primary Master UltraDMA [Auto]
Primary Slave UltraDMA [Auto]
Secondary MasterUltraDMA [Auto]
Secondary SlaveUltraDMA [Auto]
IDE DMA transfer access [Enabled]
IDE Burst Mode [Enabled]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

SIS OnChip IDE Device

Parameter	Description	Option
Internal PCI/IDE	This setting enables or disables the internal primary and secondary PCI & IDE controllers.	Disabled Primary Secondary **Both**
IDE Primary Master PIO IDE Primary Slave PIO IDE Secondary Master PIO IDE Secondary Slave PIO	Setting these items to “Auto” activates the HDD speed auto-detect function. The PIO mode specifies the data transfer rate of the HDD. For example, mode 0 data transfer rate is 3.3MB/s, mode 1 is 5.2 MB/s, mode 2 is 8.3MB/s, mode 3 is 11.1 MB/s and mode 4 is 16.6MB/s. If your hard disk performance becomes unstable, you may manually try the slower mode.	**Auto** Mode 0 Mode 1 Mode 2 Mode 3 Mode 4
Primary Master UltraDMA Primary Slave UltraDMA Secondary Master UltraDMA Secondary Slave UltraDMA	These items allow you to Enable/Disable the Ultra DMA supported by the hard disk drive connected to your primary and secondary IDE connectors.	**Auto** Disabled
IDE DMA transfer access	This item is allow you to Enable/Disable DMA function.	Disabled **Enabled**
IDE Burst Mode	This allows your hard disk controller to use the fast block mode to transfer data to and from the hard disk drive	Disabled **Enabled**

SIS OnChip PCI Device

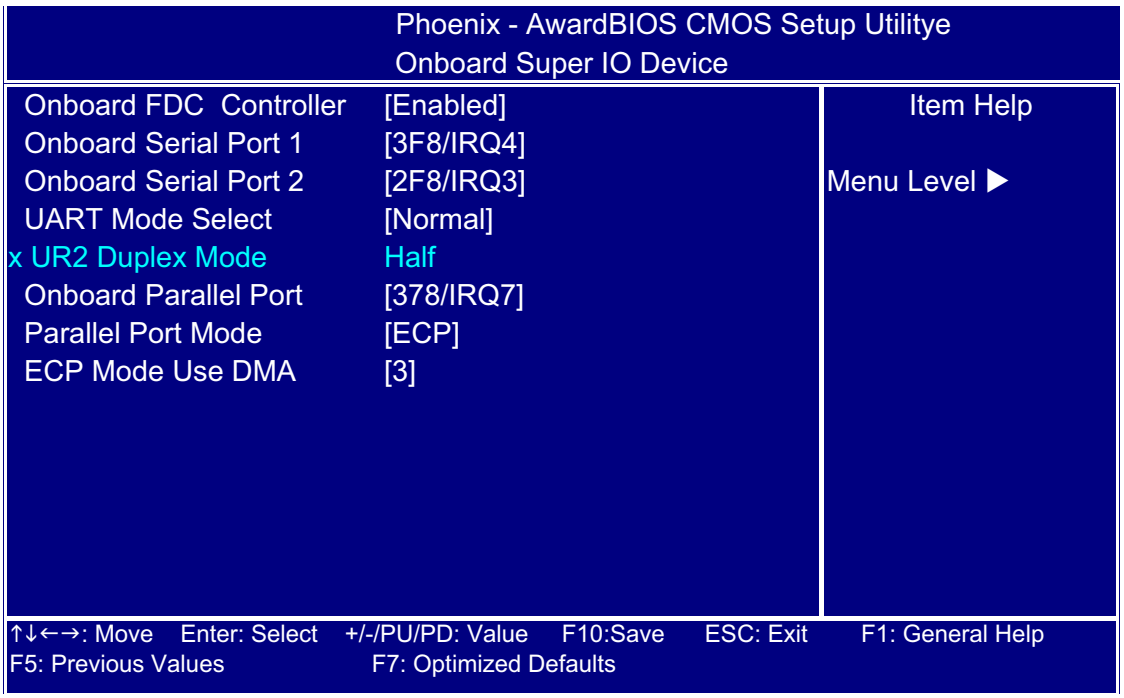

Phoenix - AwardBIOS CMOS Setup Utilitye
SIS OnChip PCI Device
USB Controller [Enabled]
USB 2.0 Support [Enabled]
USB Keyboard Support [Enabled]
USB Mouse Support [Enabled]
SIS AC97 AUDIO [Enabled]
SIS Serial ATA Controller [Enabled]
SIS Serial ATA Mode [IDE]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

Press [Enter] to enter the sub-menu and the following screen appears:

SIS OnChip PCI Device

Parameter	Description	Option
USB Controller	This item is used to enable or disable the on-chip USB.	**Enabled** Disabled
USB 2.0 Support	Enable this item if the system supports USB 2.0.	**Enabled** Disabled
USB Keyboard Support	This item lets you enable or disable the USB keyboard driver within the onboard BIOS. The keyboard driver simulates legacy keyboard command and lets you use a USB keyboard during POST or after boot if you do not have a USB driver in the operating system.	Disabled Enabled **Auto**
USB Mouse Support	This item lets you enable or disable the USB mouse driver within the onboard BIOS. The keyboard driver simulates legacy mouse command and lets you use a USB mouse during POST or after boot if you do not have a USB driver in the operating system.	Disabled Enabled **Auto**
SIS AC97 AUDIO	Enabling the on-die AC97 Audio if no add-on PCI audio device.	**Enabled** Disabled
SiS Serial ATA Controller	Enabled or Disabled the SiS serial ATA Controller	
SiS Serial ATA Mode	Select the SiS Serial ATA mode	

Onboard Super IO Device


Phoenix - AwardBIOS CMOS Setup Utilitye
Onboard Super IO Device
Onboard FDC Controller [Enabled]
Onboard Serial Port 1 [3F8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
UART Mode Select [Normal]
x UR2 Duplex Mode Half
Onboard Parallel Port [378/IRQ7]
Parallel Port Mode [ECP]
ECP Mode Use DMA [3]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

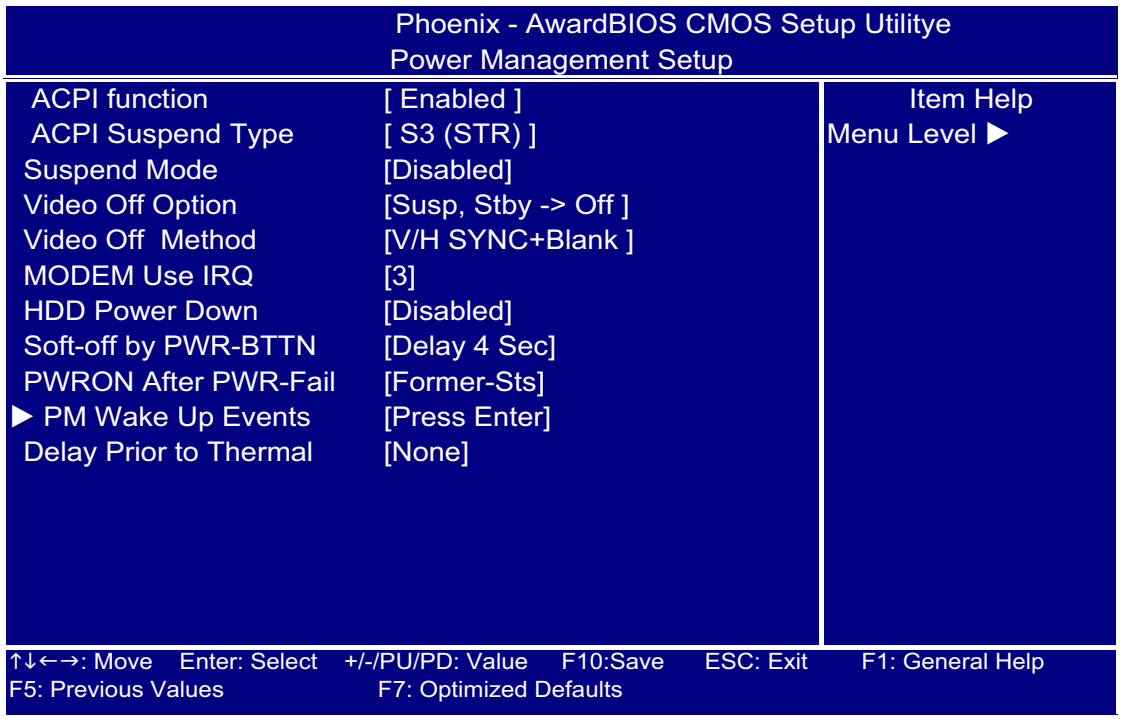
Onboard SuperIO Device

Parameter	Description	Option
Onboard FDC Controller	Enables or disables the onboard floppy disk drive controller.	**Enabled** Disabled
Onboard Serial Port 1/2	This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1	Disabled **3F8/IRQ4** 2F8/IRQ3 3E8/IRQ4 2E8/IRQ3 Auto
UART Mode Select		
UR2 Duplex Mode		
Onboard Parallel Port	This option is used to assign the I/O address and interrupt request (IRQ) for the onboard parallel port.	Disabled **378/IRQ7** 278/IRQ5 3BC/IRQ7
Parallel Port Mode	Enables you to set the data transfer protocol for your parallel port. SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port) and ECP+EPP.	**SPP** EPP ECP ECP+EPP
ECP Mode Use DMA	Select a DMA channel for the parallel port when using the ECP mode. This field is only configurable if Parallel Port Mode is set to ECP. The available setting values are 3 and 1.	1 **3**

Power Management Setup

The Power Management menu lets you configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

The following screen shows the Power Management parameters and their default settings:

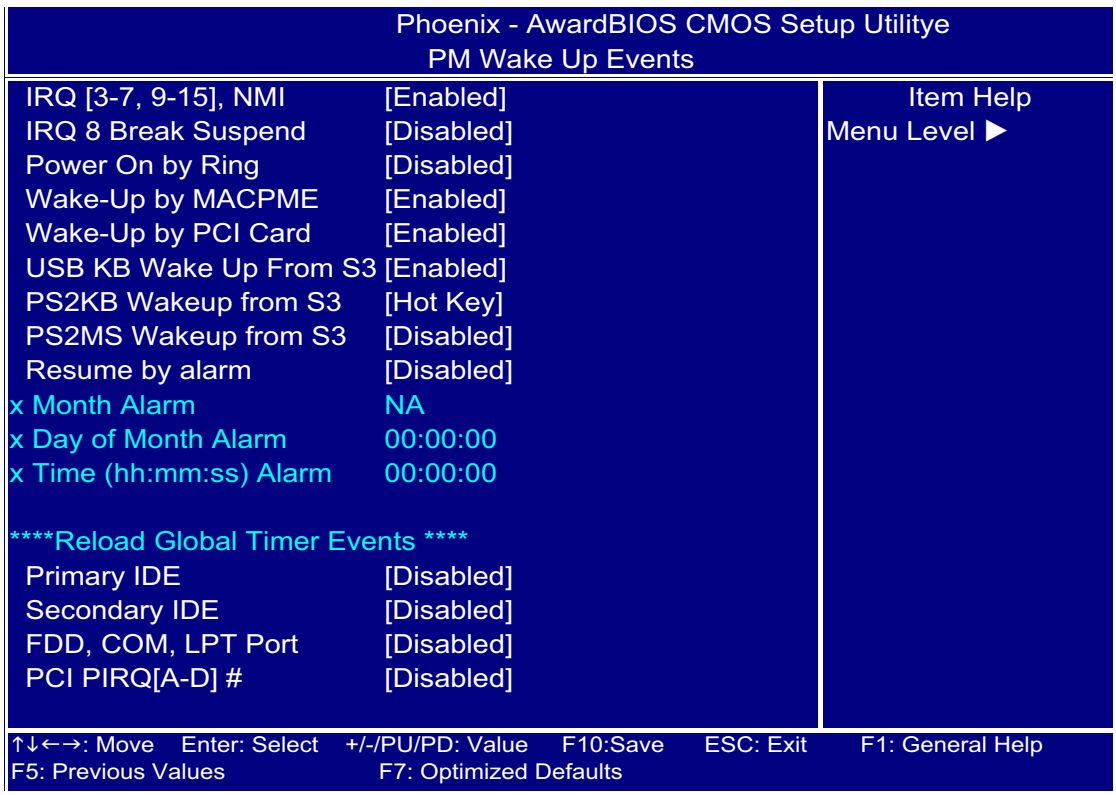

Phoenix - AwardBIOS CMOS Setup Utilitye
Power Management Setup
ACPI function [Enabled]
ACPI Suspend Type [S3 (STR)]
Suspend Mode [Disabled]
Video Off Option [Susp, Stby -> Off]
Video Off Method [V/H SYNC+Blank]
MODEM Use IRQ [3]
HDD Power Down [Disabled]
Soft-off by PWR-BTTN [Delay 4 Sec]
PWRON After PWR-Fail [Former-Sts]
▶ PM Wake Up Events [Press Enter]
Delay Prior to Thermal [None]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

The following table describes the parameters found in this menu. Settings in **boldface** are the default and suggested settings.

Parameter	Description	Options
ACPI Function	This item is to activate the ACPI (Advanced Configuration and Power Management Interface) Function. If your operating system is ACPI aware, such as Windows 98SE/2000/Me, select Enabled.	**Enabled** Disabled
ACPI Suspend Type	This item specifies the power saving modes for ACPI function. S1(POS): The S1 sleep mode is a low power state. In this state, no system context (CPU or chipset) is lost and hardware maintains all system context. S3 (STR): The S3 sleep mode is s power-down state in which power is supplied only to essential components such as main memory and wake-capable devices and all system context is saved to main memory. The information stored in memory will be used to restore the PC to the previous state when an *wake-up* event occurs. S1&S3: Both S1 and S3 will be adopted.	S1 (POS) **S3 (STR)** S1&S3
Suspend Mode		

Parameter	Description	Options
Suspend Mode	The CPU clock will be stopped and the video signal will be suspended if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected.	**Disabled** 1/2/4/8/12/20/30/40 mins 1 Hour
Video Off Option	This option is used to set video off option. The setting values are always on, suspend> off, susp,stby>off, and all modes>off.	Always On Suspend --> Off **Susp, Stby --> Off** All Modes --> Off
Video Off Method	This item determines the manner in which the monitor is blanked. V/H SYNC+Blank: This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer. Blank Screen: This option only write blanks to the video buffer. DPMS Supported: Initial display power management signaling.	Blank Screen **V/H SYNC+Blank** DPMS
Mode Use IRQ	This setting names the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of selected IRQ always awakens the system.	Auto **3**,4,5,7,9,10,11
HDD Power Down	This option is used to define the continuous HDD idle time before the HDD enters power saving mode. The setting values are disabled and 1 min to 15 min.	**Disabled** 1,2,3,4,5,6,7,8,9,10,11,12,13, 14,15 Min
Soft-off by PWR-BATTN	This option is used to set the power down method. This function is only valid for systems using an ATX power supply. When ““nstant off” is selected, press the power switch to immediately turn off power. When “delay 4 sec” is selected, press and hole the power button for four seconds to turn off power.	Instand Off Delay 4 Sec.
PWRON After PWR-Fail	This item allow user set the machine power state when connect the AC power. "Always off" means the machine is always off when power on; "Always on" means the machine will always power on when connect the AC power; "Pre-State" means the machine state is the same as the last state.	Always Off Always On **Pre-State**
PM Wake Up Events	Disabled: The specified event's activity will not affect the PM Timers/wake up the system. Enabled: The specified event's activity will affect the PM Timers/wake up the system. For example, if you have a modem on IRQ3, you can turn On IRQ3 as a wake-up event, so an interrupt from the modem can wake up the system. Or you may wish to turn Off IRQ12 (the PS/2) mouse as a wake-up event, so accidentally brushing the mouse does not awaken the system.	**[Press Enter]**
Delay Prior to Thermal	Enables you to set the delay time before the CPU enters auto thermal mode	**None** 1/2/4/8/16/32/64 Min

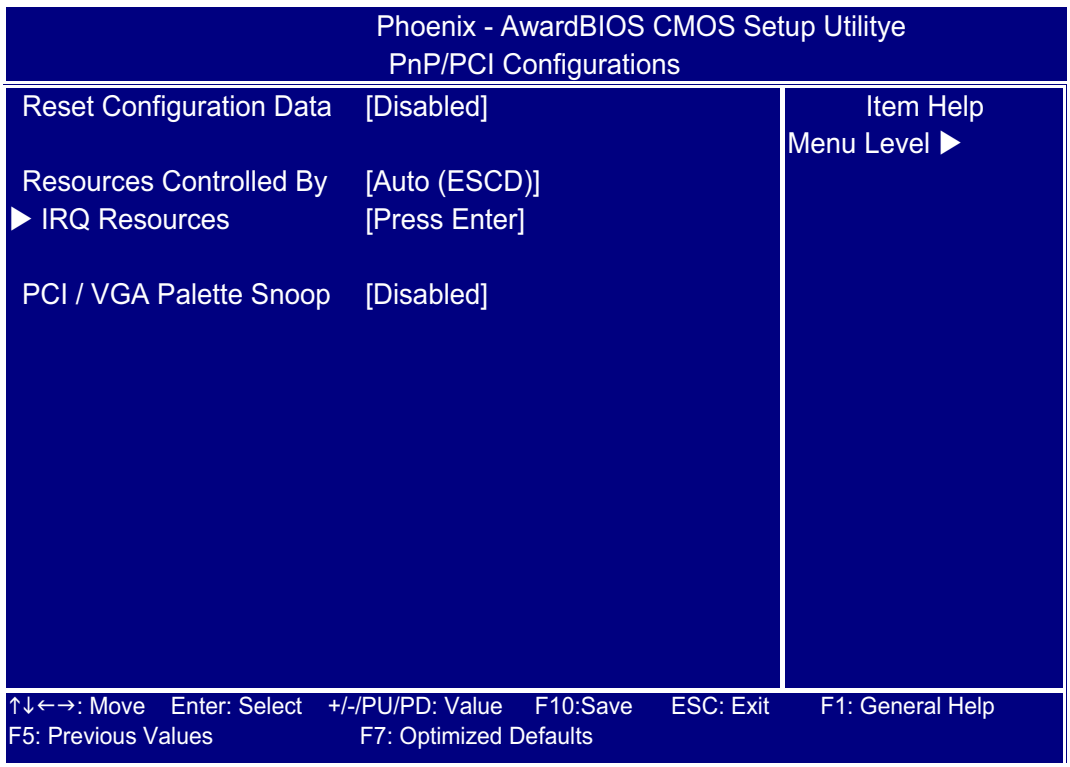
PM Wake Up Events


Phoenix - AwardBIOS CMOS Setup Utilitye
PM Wake Up Events
IRQ [3-7, 9-15], NMI [Enabled]
IRQ 8 Break Suspend [Disabled]
Power On by Ring [Disabled]
Wake-Up by MACPME [Enabled]
Wake-Up by PCI Card [Enabled]
USB KB Wake Up From S3 [Enabled]
PS2KB Wakeup from S3 [Hot Key]
PS2MS Wakeup from S3 [Disabled]
Resume by alarm [Disabled]
x Month Alarm NA
x Day of Month Alarm 00:00:00
x Time (hh:mm:ss) Alarm 00:00:00
****Reload Global Timer Events ****
Primary IDE [Disabled]
Secondary IDE [Disabled]
FDD, COM, LPT Port [Disabled]
PCI PIRQ[A-D] # [Disabled]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

Parameter	Description	Options
IRQ [3-7, 9-15], NMI	This option is used to enable or disable IRQ[3-7,9-15],NMI.	Disabled **Enabled**
IRQ 8 Break Suspend	This option is used to enable or disable IRQ8 break suspend.	**Disabled** Enabled
Power On by Ring	An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.	**Disabled** Enabled
Wake-Up by MACPME	This option is used to enable or disable the system to be weaken up by onboard LAN.	**Disabled** Enabled
Wake-Up by PCI Card	This option is used to enable or disable the system to be weaken up by PCI card.	Disabled **Enabled**
USB KB Wake Up From S3	This option is used to enable or disable the system wake up by USB device.	**Enabled**
PS2KB Wakeup from S3	This option allows you to specify whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.	Hot Key
PS2MS Wakeup from S3	Choose the PS2MS wakeup mode form S3/ S4/S5.	Disabled **Click** Move & Click

Parameter	Description	Options
Resume by Alarm	When set to Enabled, the following three fields become available: Month Alarm, Day of Month Alarm, and Time Alarm Upon arrival of the alarm time, it will instruct the system to wake up.	**Disabled** Enabled
Primary IDE	When these items are enabled, the system will restart the power-saving timeout conunters when any activity is detected on any of the drives on the primary or secondary IDE channel.	**Disabled** Enabled
Secondary IDE	When these items are enabled, the system will restart the power-saving timeout conunters when any activity is detected on any of the drives on the primary or secondary IDE channel.	**Disabled** Enabled
FDD,COM,LPT Port	When this item is enabled, the system will restart the power-saving time-out counters when any activity is detected on the floppy disk drive, serial ports, or the parallel port.	**Disabled** Enabled
PCI PIRQ[A-D]#	When this item is enabled, any activity from one of the listed devices wakes up the system.	**Disabled** Enabled

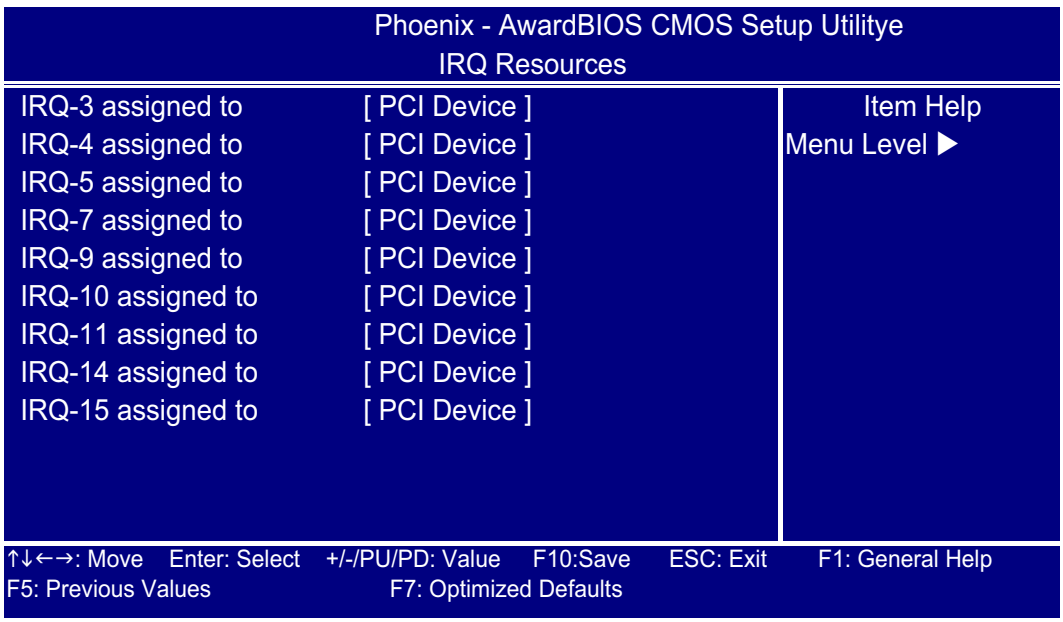
PnP/ PCI Configurations


Phoenix - AwardBIOS CMOS Setup Utilitye
PnP/PCI Configurations
Reset Configuration Data [Disabled]
Resources Controlled By [Auto (ESCD)]
▶ IRQ Resources [Press Enter]
PCI / VGA Palette Snoop [Disabled]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

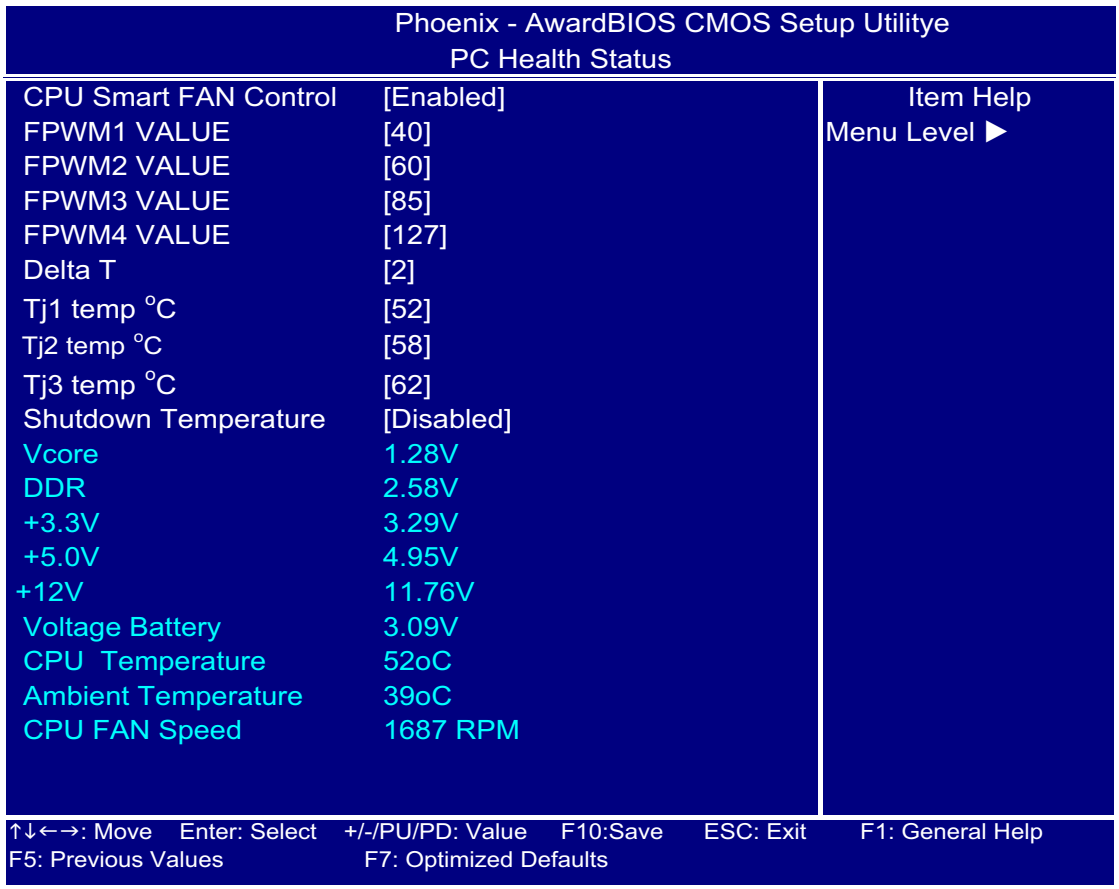
The following table describes the parameters found in this menu. Settings in **boldface** are the default and suggested settings.

Parameter	Description	Options
Reset Configuration Data	Selecting “Enabled” to reset Extended System Configuration Data (ESCD) only if you installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot. Otherwise, you should leave it unchanged.	**Disabled** Enabled
Resources Controlled By	This BIOS can automatically configure all of the boot and Plug and Play compatible devices. You can also set it as Manual and go into each of the sub menu to choose specific resources.	**Auto (ESCD)** Manual
IRQ Resources	The items are adjustable only when “Resources Controlled By” is set to Manual. By pressing “Enter” to access the sub menu.	**Press Enter**
PCI/VGA Palette Snoop	Disabled - Data read or written by the CPU is only directed to the PCI VGA device’s palette registers. Enabled - Data read or written by the CPU is directed to both the PCI VGA device’s palette registers and the ISA VGA device’s palette registers, permitting the palette registers of both VGA devices to be identical.	**Disabled** Enabled *If any ISA bus adapter in the system requires VGA Palette snooping, the setting must be set to “Enabled”.

IRQ Resources


Phoenix - AwardBIOS CMOS Setup Utilitye
IRQ Resources
IRQ-3 assigned to [PCI Device]
IRQ-4 assigned to [PCI Device]
IRQ-5 assigned to [PCI Device]
IRQ-7 assigned to [PCI Device]
IRQ-9 assigned to [PCI Device]
IRQ-10 assigned to [PCI Device]
IRQ-11 assigned to [PCI Device]
IRQ-14 assigned to [PCI Device]
IRQ-15 assigned to [PCI Device]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F7: Optimized Defaults

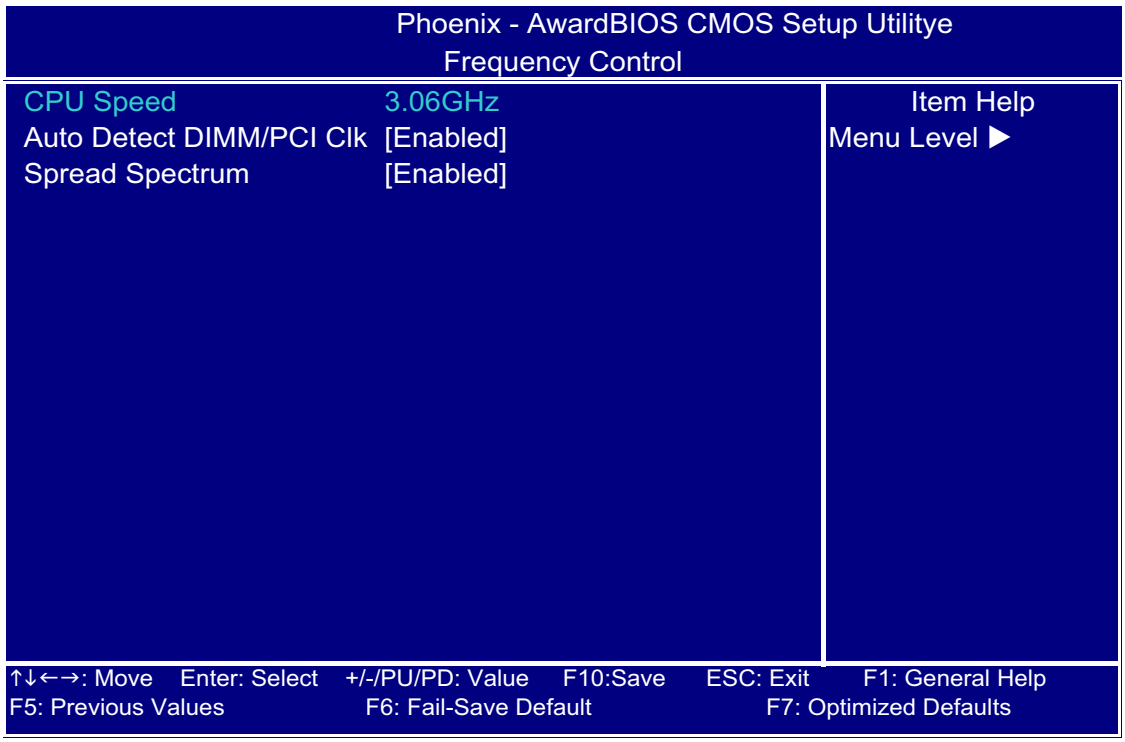
PC Health Status



The following table describes the parameters found in this menu:

Parameter	Description	Options
CPU Smart FAN Control	Enable smart fan control function. --When the CPU temperature is higer than 65 degrees Celsius, CPU fan will run at full speed. --The speed of CPU fan will increase linearly depand on the temperature if the temperature is more than 41 degree and less than 65 degree. --When the CPU temperature is lower than 40 degrees Celsius, CPU fan will be disable.	Enabled Disabled
CPU Shutdown Temp.	This option is for setting the shutdown temperature level for the processor. When the processor reaches the temperature you set, the ACPI-aware system will be shut down.	

Frequency Control

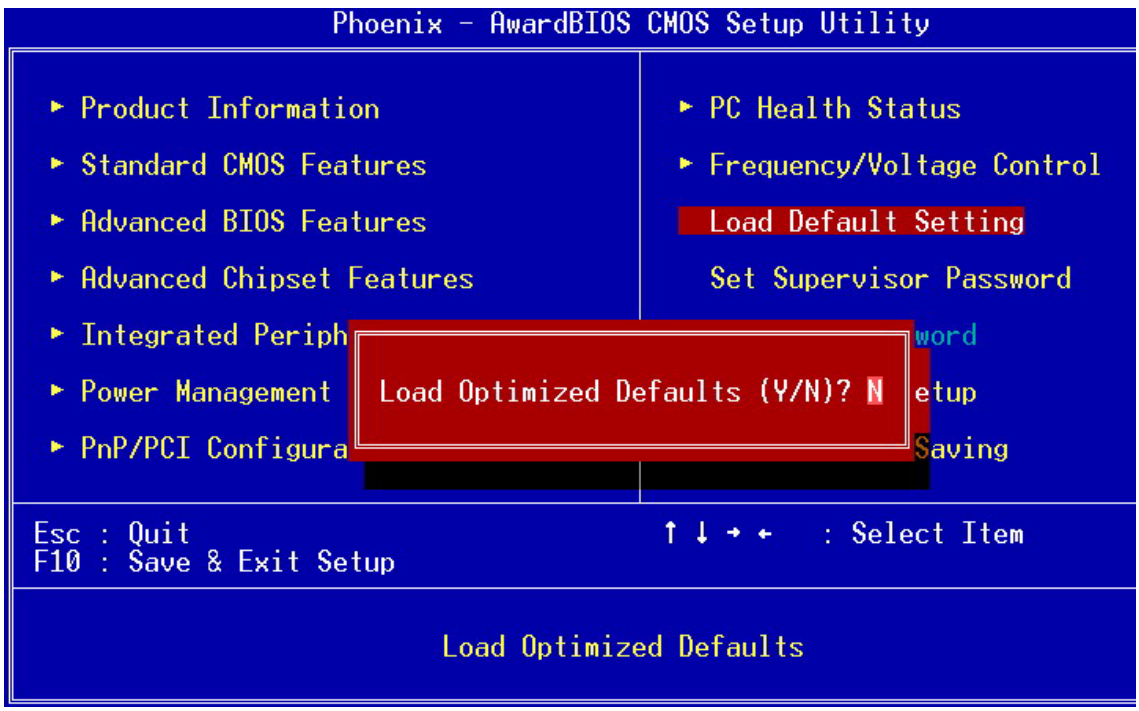

Phoenix - AwardBIOS CMOS Setup Utilitye
Frequency Control
CPU Speed 3.06GHz
Auto Detect DIMM/PCI Clk [Enabled]
Spread Spectrum [Enabled]
Item Help
Menu Level ▶
↑↓←→: Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults

The following table describes the parameters found in this menu. Settings in **boldface** are the default and suggested settings.

Parameter	Description	Options
CPU Speed	Auto detect the CPU speed from your system	
Auto Detect DIMM/PCI Clk	This option allows you to enable/disable the feature of auto detecting the clock frequency of the installed PCI bus.	Enabled **Disabled**
Spread Spectrum	When the motherboard's clock generator pulses, the extreme values (spikes) of the pulses creates EMI (Electromagnetic Interference). The spread Spectrum function reduces the EMI generated by modulating the pulses so that the spikes of the pulses are reduced to flatter curves. If you do not have any EMI problem, leave the setting at Disabled for optimal system stability and performance. But if you are plagued by EMI, setting to Enabled for EMI reduction. Remember to disable Spread Spectrum if you are overlocking because even a slight jitter can introduce a temporary boost in clockspeed which may just cause your overlock ed processor to lock up.	**Enabled**

Load Default Settings

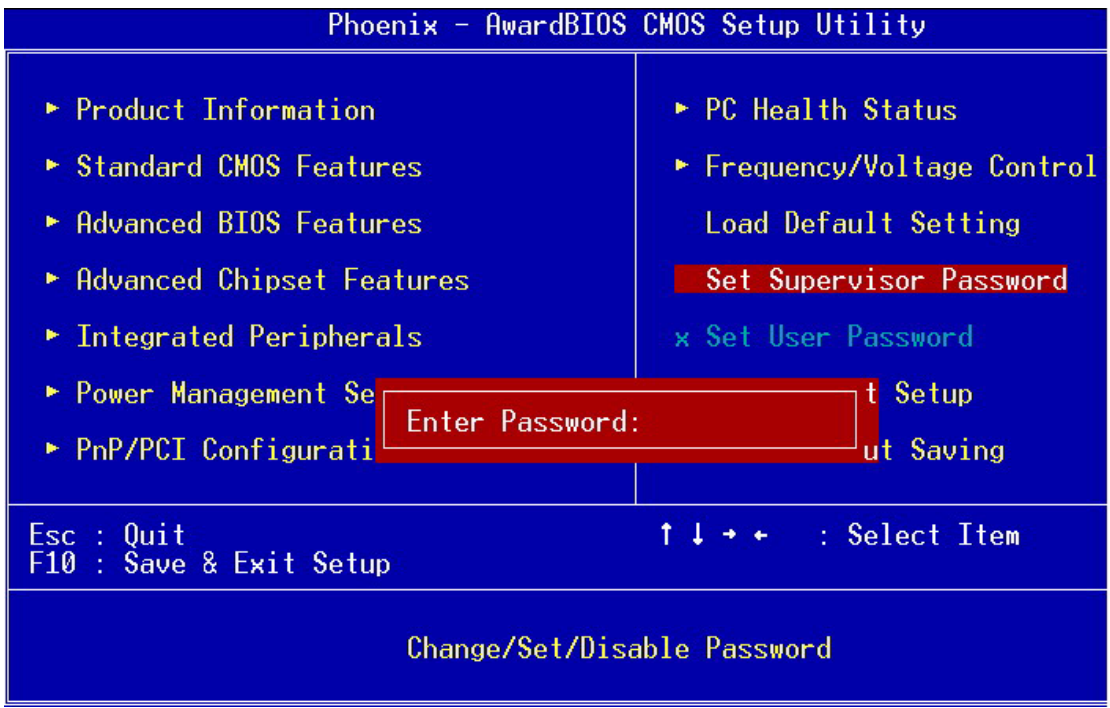
This option opens a dialog box that lets you install defaults for all appropriate items in the Setup Utility.



Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option.

Set Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.



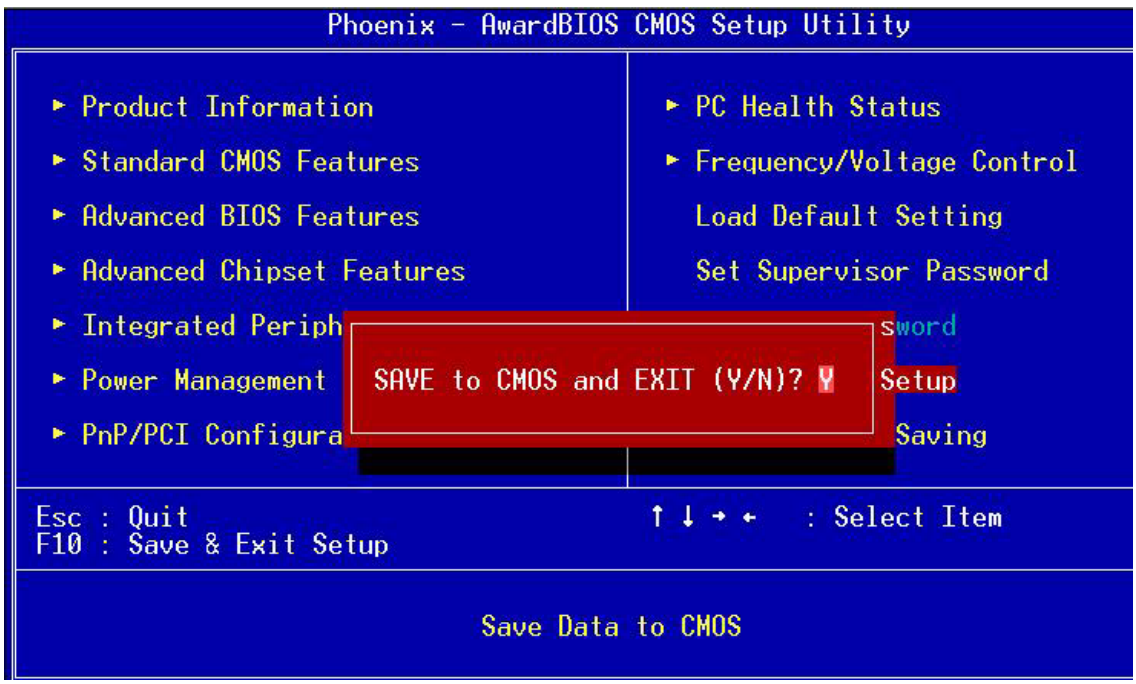
Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

Save & Exit Setup

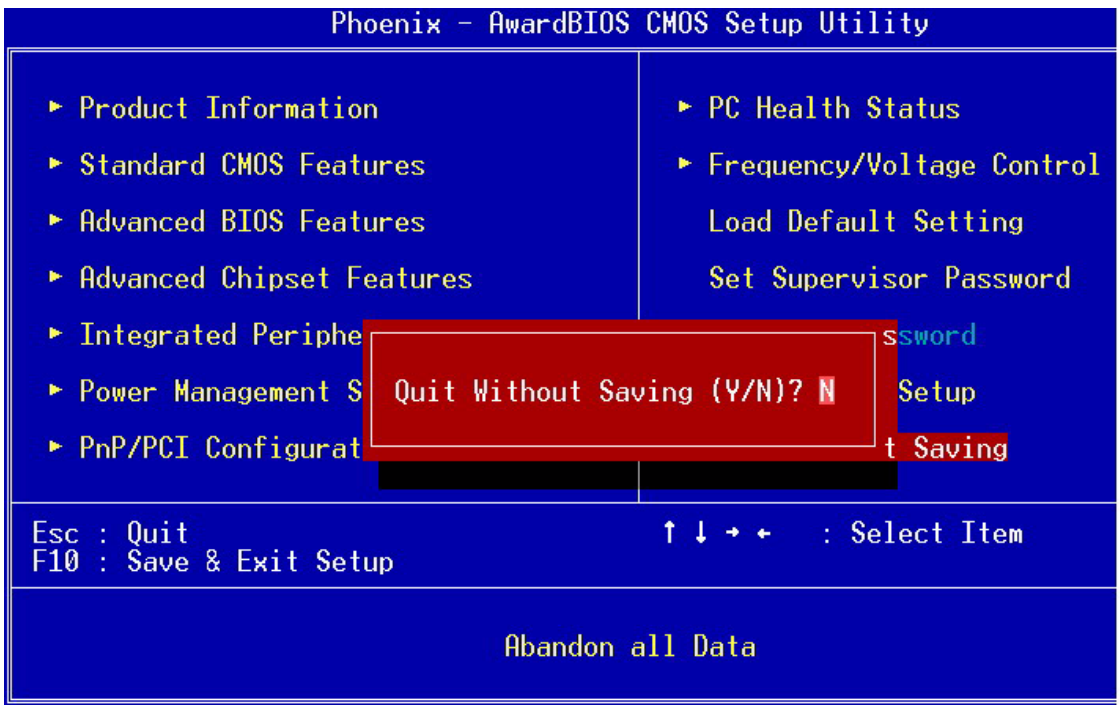
Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility.



When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility.



When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

NOTE: If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.

Machine Disassembly and Replacement

This chapter will guide you how to disassemble and reassemble Aspire SA80/AcerPower S280.

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge.
- Wire cutter.
- Phillips screwdriver (may require different size).

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.

General Information

Before You Begin

Before proceeding with the disassenbly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.

Standard Disassembly Procedure

This section tells you how to disassemble the system when you need to perform system service. The difference between Aspire SA80/AcerPower S280 is the outlooking but the inner disassembly and reassembly mechanic are the same.

Before you proceed, make sure you have turned off the system and all peripherals connected to it.

Opening the System

1. Place the system unit on a flat, steady surface.

2. Turn the housing back, and remove the four screws as shown here.

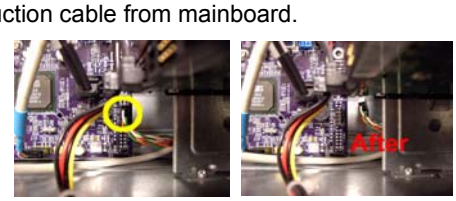
3. Slide the side door out. Then remove them.

Removing the Front Panel

1. Press fastener as red arrowhead shown, then remove the front panel as shown.

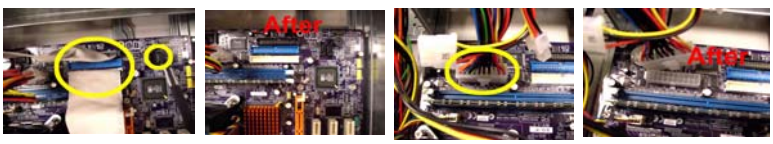
Removing the Cables from Mainboard

1. Disconnect the LCE instruction cable from mainboard.



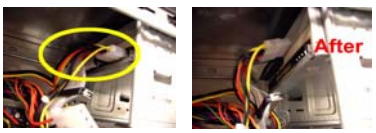
2. Disconnect the USB4 from the mainboard.
3. Disconnect the audio cable from the mainboard.

4. Disconnect the two cables from mainboard.
5. Disconnect the power cable from the mainboard.

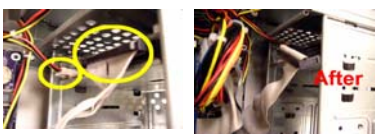


Disconnect the Cables from Device

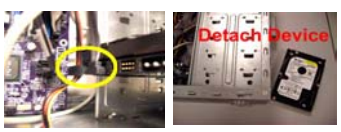
1. Disconnect the Power cable and IDE cable from the ODD.



2. Disconnect the two cables from the rear of FDD.



3. Disconnect the two SATA cables from the HDD.



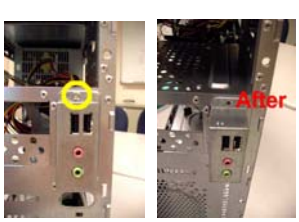
Removing the ODD, FDD and HDD

1. Loosen the two screws on each side to detach the ODD.
2. Loosen the two screws on each side to detach the FDD.

3. Loosen the two screws on each side to detach the HDD.

Removing the USB Module

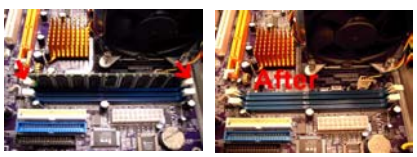
1. Remoe the one screw.
2. Detach the USB module from the chassis.



1. Remove the two screws on both sides.
2. Disconnect the cables from the daughter board.
3. Detach the daughter board from the bracket.

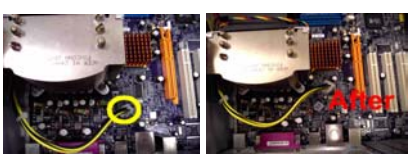
Removing the DIMM

1. Pop up the clips on both sides. (Be aware of the arrow positions)
2. Take the memory away from the slot.

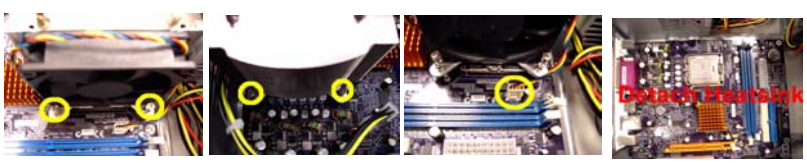


Removing the Heatsink and CPU

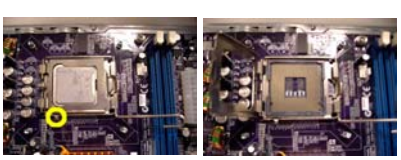
1. Disconnect the PSW fan cable from the mainboard.



2. Fully loosen the four screws on the four corners.
3. Disconnect the CPU fan cable from the position.
4. Lift the Heatsink from the socket.

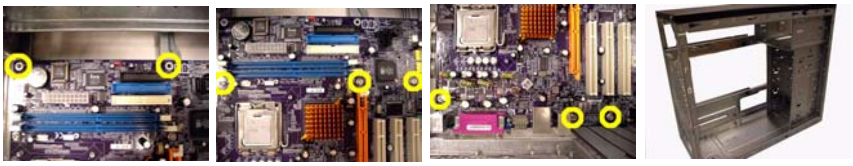


5. Unhook the processor lever and lift the load plate.
6. Remove the processor.



Removing the Mainboard

1. Loosen these scerws (total screws are 8) from the mainboard.
2. Detach the mainboard from the chassis.



Troubleshooting

This chapter provides troubleshooting information for the Aspire SA80/AcerPower S280

- Power-On Self-Test (POST)
- POST Check Points
- POST Error Messages List
- Error Symptoms List

Power-On Self-Test (POST)

Before the computer can be used, all the components must be tested and initialized, and the operating system must be bootstrapped into memory. This process is know as the power-on Self test(POST), generally under the control of the BIOS.

The Power-On Self Test (POST) is a BIOS procedure that boots the system, initializes and diagnoses the system components, and controls the operation of the power-on password option. During POST, system reports test or initialization failure through Beep codes, display error messages on screen(if available), or LED. The system halts when fatal error occurs.

The main components on the main board that must be diagnosed and/or initialized by POST to ensure system functionality are as follows:

- Microprocessor with built-in numeric co-processor and cache memory subsystem
- Direct Memory Access (DMA) controller
- Interrupt system
- Three programmable timers
- ROM subsystem
- RAM subsystem
- RTC RAM subsystem and real time clock/calendar with battery backup
- Onboard serial interface controller
- Onboard parallel interface controller
- Embedded hard disk interface and one diskette drive interface
- Keyboard and auxiliary device controllers
- I/O ports
  - PS/2-compatible mouse port
  - PS/2-compatible keyboard port
- Serial ports
- Parallel ports
- USB port

POST Check Points

When POST executes a task, it uses a series of preset numbers called check point to be latched at port 80h, indicating the stages it is currently running. This latch can be read and shown on a debug board.

The following table describes the Acer common tasks carried out by POST. A unique check point number represents each task.

Checkpoint	*Description*
CFh	Test CMOS R/W functionality
C0h	Early chipset initialization: • Disable shadow RAM • Disable L2 Cache (socket 7 or below) • Program basic chipset registers
C1h	Detect memory • Auto-detection of DRAM size, type and ECC. • Auto-detection of L2 cache (socket 7 or below)
C3h	Expand compressed BIOS code to DRAM
C5h	Call chipset hook to copy BIOS back to E000 & F000 shadow RAM
0h1	Expand the Xgroup codes locating in physical address 1000:0
02h	Reserved
03h	Initial Superio_Early_Init switch
04h	Reserved
05h	1. Blank out screen 2. Clear CMOS error flag
06h	Reserved
07h	1. Clear 8042 interface 2. Initialize 8042 self-test
08h	1. Test special keyboard controller for Winbond 977 series Super I/O chips 2. Enable keyboard interface
09h	Reserved
0Ah	1. Disable PS/2 mouse interface (optional) 2. Auto detect ports for keyboard & mouse followed by a port & interface swap (optional) 3. Reset keyboard for Winbond 977 series Super I/O chips
0Bh	Reserved
0Ch	Reserved
0Dh	Reserved
0Eh	Test F000h segment shadow to see whether it is R/W-able or not. If test fails. keep beeping the speaker.
0Fh	Reserved
10h	Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support.
11h	Reserved

Checkpoint	*Description*
12h	Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override.
13h	Reserved
14h	Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers.
15h	Reserved
16h	Initial onboard clock generator if Early_Init_Onboard_Generator is defined. See also POST 26h.
17h	Reserved
18h	Detect CPU information including brand, SMI type (Cyrix or Intel) and CPU level (586 or 686).
19h	Reserved
1Ah	Reserved
1Bh	Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INT_HDLR & S/W interrupts to SPURIOUS_soft_HDLR.
1Ch	Reserved
1Dh	Initial EARLY_PM_INIT switch
1Eh	Reserved
1Fh	Load keyboard matrix (notebook platform)
20h	Reserved
21h	HPM Initialization (notebook platform)
22h	Reserved
23h	1. Check validity of RTC value: e.g. a value of 5Ah is an invalid value for RTC minute. 2. Load CMOS settings into BIOS stack. If Smos checksum fails, use default value instead.
24h	Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration of the ESCD's legacy information.
25h	Early PCI Initialization: • Enumerate PCI bus number • Assign memory & I/O resource • Search for a valid VGA device & VGA BIOS, and put it into C000:0
26h	1. If Early_Init_Onboard_Generator is not defined Onboard clock generator initialization. Disable respective clock resource to empty PCI & DIMM slots. 2. Init onboard PWM 3. Init onboard H/W monitor devices
27h	Initialize INT 09 buffer
28h	Reserved
29h	1. Program CPU internal MTRR (P6 & PII) for 0-640K memory address. 2. Initialize the APIC for Pentium class CPU 3. Program early chipset according to CMOS setup. Example: onboard IDE controller. 4. Measure CPU speed.

Checkpoint	*Description*
2Ah	Reserved
2Bh	Invoke Video BIOS
2Ch	Reserved
2Dh	1. Initialize double-byte language font (Optional) 2. Put information on screen display, including Award title, CPU type, CPU speed, full screen logo.
2Eh	Reserved
2Fh	Rederved
30h	Reserved
31h	Reserved
32h	Reserved
33h	Reset keyboard if Early_Reset_KB is defined e.g. Winbond 977 series Super I/O chips. See also POST 63h
34h	Reserved
35h	Test DMA Channel 0
36h	Reserved
37h	Test DMA Channel 1
38h	Reserved
39h	Test DMA page registers
3Ah	Reserved
3Bh	Reserved
3Ch	Test 8254
3Dh	Reserved
3Eh	Test 8259 interrupt mask bits for channel 1
3Fh	Reserved
40h	Test 8259 interrupt mask bits for channel 2
41h	Reserved
42h	Reserved
43h	Test 8259 functionality
44h	Reserved
45h	Reserved
46h	Reserved
47h	Initialize EISA slot
48h	Reserved
49h	1. Calculate total memory by testing the last double word of each 64K page. 2. Program write allocation for AMD K5 CPU.
4Ah	Reserved
4Bh	Reserved
4Ch	Reserved
4Dh	Reserved

Checkpoint	Description
4Eh	1. Program MTRR of M1 CPU 2. Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range. 3. Initialize the APIC for P6 class CPU. 4. On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical.
4Fh	Reserved
50h	Initialize USB Keyboard & Mouse
51h	Reserved
52h	Test all memory (clear all extended memory to 0)
53h	Clear password according to H/W jumper (Optional)
54h	Reserved
55h	Display number of processors (multi-processor platform)
56h	Reserved
57h	1. Display PnP logo 2. Early ISA PnP initialization - Assign CSN to every ISA PnP device
58h	Reserved
59h	Initialize the combined Trend Anti-Virus code
5Ah	Reserved
5Bh	(Optional Feature) Show message for entering AWDFLASH.EXE from FDD (optional)
5Ch	Reserved
5Dh	1. Initialize Init_Onboard_Super_IO 2. Initialize Init_Onboard_AUDIO
5Eh	Reserved
5Fh	Reserved
60h	Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility.
61h	Reserved
62h	Reserved
63h	Reset keyboard if Early_Reset_KB is not defined.
64h	Reserved
65h	Initialize PS/2 Mouse
66h	Reserved
67h	Prepare memory size information for function call: INT 15h ax=E820h
68h	Reserved
69h	Turn on L2 cache
6Ah	Reserved
6Bh	Program chipset registers according to items described in Setup & Auto-configuration table
6Ch	Reserved

Checkpoint	Description
6Dh	1. Assign resources to all ISA PnP devices. 2. Auto assign ports to onboard COM ports if the corresponding item in Setup is set to “Auto”.
6Eh	Reserved
6Fh	1. Initialize floppy controller 2. Set up floppy related fields in 40:hardware
70h	Reserved
71h	Reserved
72h	Reserved
73h	Reserved
74h	Reserved
75h	Detech &install all IDE device: HDD, LS120, ZIP, CDROM...
76h	(Optional feature) Enter AWDFLASH.EXE if: - AWDFLASH.EXE is found in floppy drive. - ALT+F2 is prrssed.
77h	Detect serial ports & parallel ports
78h	Reserved
79h	Reserved
7Ah	Detect & install co-processor
7Bh	Reserved
7Ch	Init HDD write protect
7Dh	Reserved
7Eh	Reserved
7Fh	Switch back to text mode if full screen logo is supported. - If errors occur, report errors & wait for keys - If no errors occur or F1 key is pressed to continue: Clear EPA or customization logo.
80h	Reserved
81h	Reserved
82h	1. Call chipset power management hook. 2. Recover the text fond used by EPA logo (not for full screen logo). 3. If password is set, ask for password.
83h	Save all data in stack back to CMOS
84h	Initialize ISA PnP boot devices
85h	1. USB final initialization 2. Switch screen back to text mode
86h	Reserved
87h	NET PC: Build SYSID structure
88h	Reserved
89h	1. Assign IRQs to PCI devices. 2. Set up ACPI table at top of the memory.
8Ah	Reserved

Checkpoint	*Description*
8Bh	1. Invoke all ISA adapter ROMs 2. Invoke all PCI ROMs (except VGA)
8Ch	Reserved
8Dh	1. Enable/Disable Parity Check according to CMOS setup. 2. APM Initialization
8Eh	Reserved
8Fh	Clear noise if IRQs
90h	Reserved
91h	Reserved
92h	Reserved
93h	Read HDD boot sector information for Trend Anti-Virus code
94h	1. Enable L2 cache 2. Program Daylight Saving 3. Program boot up speed 4. Chipset final initialization 5. Power management final initialization 6. Clear screen & dispaly summary table 7. Program K6 write allocation 8. Program P6 class write combining
95h	Update keyboard LED & typematic rate
96h	1. Build MP table 2. Build & update ESCD 3. Set CMOS century to 20h or 19h 4. Load CMOS time into DOS timer tick 5. Build MSIRQ routing table
FFh	Boot attempt (INT 19h)

POST Error Messages List

If you cannot run the diagnostics program tests but did receive a POST error message, use “POST Error Messages List” to diagnose system problems. If you did not receive any error message, look for a description of your error symptoms in “Error Sympton List”.

NOTE: When you have deemed it necessary to replace an FRU, and have done so, you must run a total system check to ensure that no other activity has been affected by the change. This system check can be done through the diagnostics program.

NOTE: Check all power supply voltages, switch, and jumper settings before you replace the main board. Also check the power supply voltages if you have a “system no-power” condition.

NOTE: To diagnose a problem, first find the BIOS error messages in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause.

BIOS Messages	Action/FRU
I/O Parity Error	1. System board
CPU Clock Mismatch	1. Enter BIOS Setup and load the default settings. 2. Ensure BIOS setting for processor is set correctly.
Real Time Clock Error CMOS Battery Bad CMOS Checksum Error	1. Enter BIOS Setup and load the default settings. 2. RTC Battery. 3. System Board.
Equipment Configuration Error	1. Ensure the system configuration set in BIOS Setup is correct. 2. Enter BIOS Setup and load the default settings. 3. RTC battery. 4. System board.
System Management Memory Bad Memory Error at MMMM:SSSS:OOOOh	1. Insert the memory modules in the DIMM sockets properly, then reboot the system. 2. Memory module. 3. System board.
RAM Parity Error	1. Enter BIOS Setup to disable parity check. 2. Memory module 3. System board
PS/2 Keyboard Error or Keyboard Not Connected PS/2 Keyboard Interface Error PS/2 Keyboard Locked	1. Re-connect PS/2 keyboard and mouse. 2. Enter BIOS Setup and load the default settings. 3. PS/2 keyboard 4. PS/2 mouse 5. System board
Onboard xxx... Conflict(s)	1. Enter BIOS Setup and load the default settings. 2. Remove all adapter cards that are NOT factory-installed, then reboot the system.
Floppy Disk Controller Error Floppy Drive A Error Floppy Drive B Error	1. Diskette drive cable/connection. 2. Diskette drive. 3. System board
On Board Parallel Port Conflict(s) On Board Serial Port 1 Conflict(s) On Board Serial Port 2 Conflict(s)	1. Enter BIOS Setup and load the default settings. 2. Remove all adapter cards that are NOT factory-installed, then reboot the system.

BIOS Messages	Action/FRU
Floppy Drive(s) Write Protected Hard Disk Drive(s) Write Protected	1. Ensure that the diskette drive is not set to [Write Protected] in the Security Options in BIOS Setup. 2. Load default settings in Setup.
IDE Drive 0 Error IDE Drive 1 Error IDE Drive 2 Error IDE Drive 3 Error	1. Enter BIOS Setup and load the default settings. 2. Check IDE drive jumper. 3. IDE hard disk drive power. 4. IDE hard disk drive cable/connection. 5. IDE hard disk drive.
IRQ Setting Error Expansion ROM Allocation Fail I/O Resource Conflict(s) Memory Resource Conflict(s)	1. Load default settings in Setup. 2. Enter BIOS Setup and set the **Reset Resource Assignments** of the **PnP/PCI Options** to Yes, then reboot the system. 3. Remove all adapter cards that are NOT factory-installed, then reboot the system
PCI Device Error	1. Load default settings in Setup. 2. Enter BIOS Setup and set the **Reset Resource Assignments** of the **PnP/PCI Options** to Yes, then reboot the system. 3. Remove all adapter cards that are NOT factory-installed, then reboot the system.
PS/2 Pointing Device Interface Error PS/2 Pointing Device Error	1. Re-connect PS/2 keyboard and mouse. 2. Enter BIOS Setup and load the default settings. 3. PS/2 mouse 4. PS/2 keyboard 5. System board
DMI Table Was Destroyed	1. Flash BIOS
Press “DEL” key to enter Setup or F1 key to continue	1. Press DEL to enter Setup and reconfigure the system.
Press ESC to turn off NMI, or any key to reboot	1. Press ESC to reject NMI error or press any other key to reboot the system.
Insert system diskette and press ENTER key to reboot	1. Insert a bootable disk into the floppy disk drive or remove this disk if a hard disk is installed.

Error Symptoms List

NOTE: To diagnose a problem, first find the error symptom in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/ FRU listed in right column is the most likely cause

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Error Symptom	Action/FRU
Processor / Processor Fan	
NOTE: Normally, the processor fan should be operative, and the processor clock setting should be exactly set to match its speed requirement before diagnosing any processor problems.	
Processor fan does not run but power supply fan runs.	1. Ensure the system is not in power saving mode. See “Power Management” in chapter 2. 2. With the system power on, measure the voltage of processor fan connector. Its reading should be +12Vdc. 3. System board.
Processor test failed.	1. Processor 2. System board
System Board and Memory	
NOTE: Ensure the memory modules are installed properly and the contact leads are clean before diagnosing any system problems.	
Memory test failed.	1. See "Memory" 2. System board
Incorrect memory size shown or repeated during POST.	1. Insert the memory modules in the DIMM sockets properly, then reboot the system. 2. Memory module. 3. System board.
System works but fails to enter power saving mode when the `Power Management Mode` is set to `Enabled`, and power saving timer set in BIOS has elapsed.	1. Enter BIOS Setup and load default settings. In Windows 98, check settings in Power Management Property of Control Panel. 2. Reload software from Recovery CD.
System hangs before system boot.	1. See "Index of Symptoms" 2. See "Undetermined Problems"
System hangs after system boot.	1. Execute a system test and set it to stop at “Halt on Error” to see the potential cause of the problem. 2. See “Undetermined Problems”.
Blinking cursor only; system does not work.	1. Diskette/IDE drive connection/cables 2. Diskette/IDE disk drives 3. See “Undetermined Problems”. 4. System board
Diskette Drive	
NOTE: Ensure the diskette drive is configured correctly in BIOS Setup and its read/write head is clean before diagnosing any diskette drive problems.	
Media and drive are mismatched.	1. Ensure the diskette drive is configured correctly in the Disk Drives of BIOS Setup. 2. Ensure the diskette drive is correctly formatted. 3. Diskette drive connection/cable 4. Diskette drive 5. System board

Error Symptom	Action/FRU
Diskette drive does not work.	1. Ensure the diskette drive is not set to `None` in the Disk Drives of BIOS Setup. 2. Diskette drive power 3. Diskette drive connection/cable 4. Diskette drive 5. System board
Diskette drive read/write error.	1. Diskette. 2. Ensure the diskette drive is not set to `Write protect` in the Security Options of BIOS Setup. 3. Diskette drive cable. 4. Diskette drive. 5. System board.
Diskette drive LED comes on for more than 2 minutes when reading data.	1. Diskette 2. Diskette drive connection/cable 3. Diskette drive 4. System board
Diskette drive LED fails to light, and the drive is unable to access for more than 2 minutes.	1. Diskette 2. Diskette drive power 3. Diskette drive connection/cable 4. Diskette drive 5. System board
Diskette drive test failed.	1. Diskette 2. Diskette drive 3. Diskette drive cable 4. System board
Hard Disk Drive	
NOTE: Ensure hard disk drive is configured correctly in BIOS Setup, cable/jumper are set correctly before diagnosing any hard disk drive problems.	
Hard disk drive test failed.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. System board.
Hard disk drive cannot format completely.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. System board.
Hard disk drive has write error.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive.
Hard disk drive LED fails to light, but system operates normally.	1. With the system power on, measure the voltage of hard disk LED connector. 2. Hard drive LED cable.
CD/DVD-ROM Drive	
NOTE: Ensure CD/DVD-ROM drive is configured correctly in BIOS Setup, cable/jumper are set correctly and its laser beam is clean before diagnosing any CD/DVD-ROM drive problems.	
CD/DVD-ROM drive LED doesn't come on but works normally.	1. CD/DVD-ROM drive

Error Symptom	Action/FRU
CD/DVD-ROM drive LED flashes for more than 30 seconds before LED shutting off. Software asks to reinstall disc. Software displays a reading CD/DVD error.	1. CD/DVD-ROM may have dirt or foreign material on it. Check with a known good disc. 2. CD/DVD-ROM is not inserted properly. 3. CD/DVD-ROM is damaged.
CD/DVD-ROM drive cannot load or eject when the system is turned on and its eject button is pressed and held.	1. Disconnect all cables from CD/DVD-ROM drive except power cable, then press eject button to try to unload the disk. 2. CD/DVD-ROM drive power. 3. CD/DVD-ROM drive
CD/DVD-ROM drive does not read and there are no messages are displayed.	1. CD may have dirt or foreign material on it. Check with a known good disc. 2. Ensure the CD/DVD-ROM driver is installed properly. 3. CD/DVD-ROM drive.
CD/DVD-ROM drive can play audio CD but no sound output.	1. Ensure the headphone jack of the CD/DVD-ROM has an output. 2. Turn up the sound volume. 3. Speaker power/connection/cable. 4. CD/DVD-ROM drive.
Real-Time Clock	
Real-time clock is inaccurate.	1. Ensure the information in the `Date and Time` of BIOS Setup is set correctly. 2. RTC battery. 3. System board
Audio	
Audio software program invokes but no sound comes from speakers.	1. Speaker power/connection/cable.
Modem	
Modem ring cannot wake up system from suspend mode.	1. Ensure the `Modem Ring Indicator` in BIOS Setup or `Power Management` is set to `Enabled`. 2. If PCI modem card is used, reinsert the modem card to PCI slot firmly or replace the modem card. 3. If ISA modem card is used, ensure the modem ring-in cable from the modem card to system board is connected properly. 4. In Win 98, ensure the telephone application is configured correctly for your modem and set to receive messages and/or fax.
Data/fax modem software program invokes but cannot receive/send data/ fax	1. Ensure the modem card is installed properly.
Fax/voice modem software program invokes but has no sound output. (Data files are received normally; voice from modem cannot be produced, but system sound feature works normally.)	1. Ensure the modem voice-in cable from modem adapter card to system board
Video and Monitor	
Video memory test failed. Video adapter failed.	1. Remove all non-factory-installed cards. 2. Load default settings (if screen is readable). 3. System board

Error Symptom	Action/FRU
Display problem: - Incorrect colors No high intensity Missing, broken, or incorrect characters Blank monitor(dark) Blank monitor(bright) Distorted image Unreadable monitor Other monitor problems	1. Monitor signal connection/cable. 2. Monitor 3. Video adapter card 4. System board
Display changing colors.	1. Monitor signal connection/cable 2. Monitor 3. System board
Display problem not listed above (including blank or illegible monitor).	1. “Monitor". 2. Load default settings (if screen is readable). 3. System board

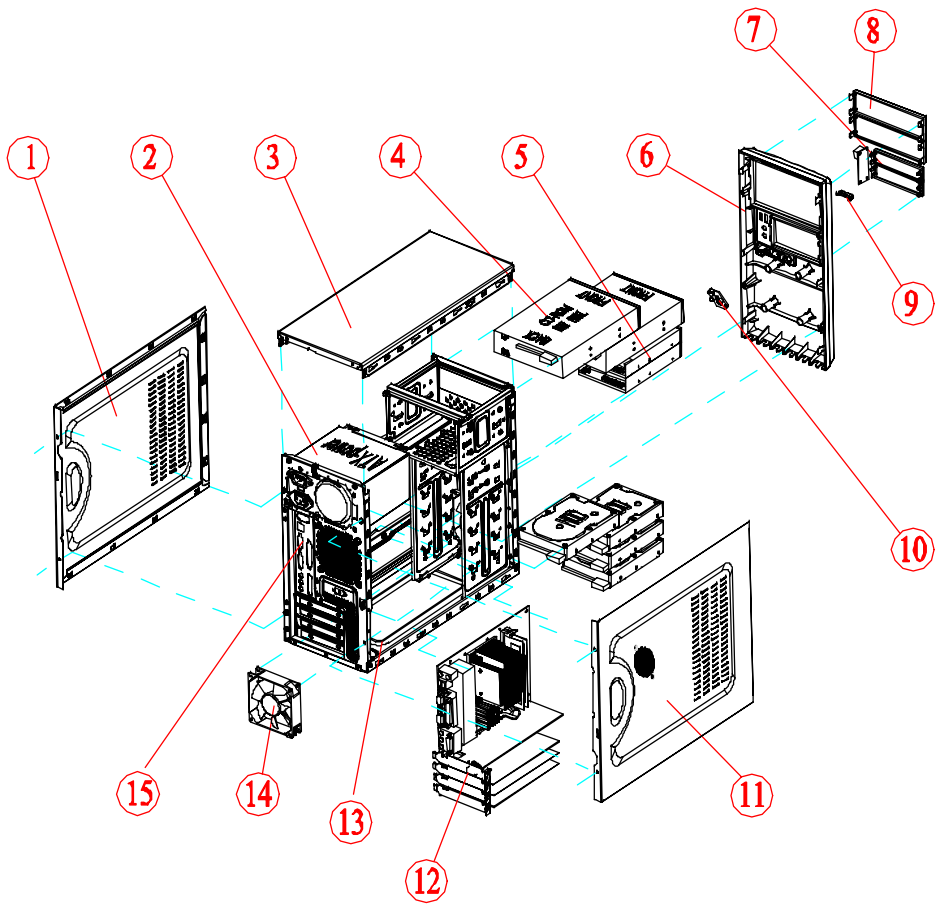
Error Symptom	Action/FRU
Parallel/Serial Ports	
Execute “Load BIOS Default Settings” in BIOS Setup to confirm ports presence before diagnosing any parallel/serial ports problems.	
Serial or parallel port loop-back test failed.	1. Make sure that the LPT# or COM# you test is the same as the setting in BIOS Setup. 2. Loop-back. 3. System board.
Printing failed.	1. Ensure the printer driver is properly installed. Refer to the printer service manual. 2. Printer. 3. Printer cable. 4. System board.
Printer problems.	1. Refer to the service manual for the printer.
Keyboard	
Some or all keys on keyboard do not work.	1. Keyboard
Power Supply	
Pressing power switch does not turn off system. (Only unplugging the power cord from electrical outlet can turn off the system.)	1. Ensure the `Power Switch < 4 sec.` in BIOS Setup of `Power Management` is not set to `Suspend`. 2. Power switch cable assembly
Pressing power switch does not turn on the system.	1. Ensure the power override switch (situated at the back of the machine, just above the connector for the power cable) is not set to OFF. 2. Power switch cable assembly.
Executing software shutdown from Windows98 Start menu does not turn off the system. (Only pressing power switch can turn off the system).	1. Load default settings. 2. Reload software from Recovery CD.
No system power, or power supply fan is not running.	1. Power Supply 2. System Board
Other Problems	
Any other problems.	1. Undetermined Problems

FRU (Field Replaceable Unit) List

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of **Aspire SA80 / AcerPower S280**. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

NOTE: Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel (http://aicsl.acer.com.tw/spl/, if you do not own a specific account, you can still access the system with guest; guest). For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

Exploded Diagram



ITEM	Description	P/N
1	Right Side Cover	2IA21-J35
2	Power-supply	
3	Top Cover (Painted)	2IA21-J36
4	CD-ROM	
5	FDD	
6	FRONT BEZEL	
7	3.25 COVER	2Q396-001
8	5.25 COVER	2L273-J13
9	Power-Button	
10	Led-Holder	
11	Left Side Cover	2IA21-J39
12	Mother Board	
13	CHASSIS SUB ASSY	
14	SYSTEM FAN	
15	I/O SHIELD	

PART NAME	DESCRIPTION	P/N
BOARD		
USB/ AUDIO DAUGHTER BOARD	USB BOARD	55.S26VF.001
READER		
9-IN-1 CARD READER MODULE 3.5 IN. KYE	9-IN-1 CARD READER MODULE 3.5 IN. KYE	PZ.00908.001
CABLE		
IDE HDD CABLE ATA66 40PIN	HDD DATA CABLE	50.P06VF.001
LED CABLE ASSY (POWER SWITCH CABLE, POWER LED CABLE, HDD LED CABLE)	LED CABLE ASSY	50.P04VF.003
AUDIO CABLE 8PIN 2CON	AUDIO CABLE	50.P04VF.001
FRONT INTERNAL USB CABLE	USB CABLE	50.P04VF.002
IDE CD-ROM CABLE ATA66 40PIN	CDROM DATA CABLE	50.P06VF.002
FDD CABLE	FDD CABLE	50.S30VF.001
COM2 CABLE	COM2 CABLE	50.V13VF.001
CASE/COVER/BRACKET ASSEMBLY		
FRONT BEZEL W/ POWER BUTTON, 5.25" 3.5" EMPTY COVER LED CABLE (S43 BEZEL)	S43 BEZEL SUB ASSY	60.S26VF.001 (Aspire SA60)
FRONT BEZEL W/ POWER BUTTON, 5.25" 3.5" EMPTY COVER (S42 BEZEL)	S42 BEZEL SUB ASSY (1 FDD COVER, 1 CD-COVER)	60.S17VF.001 (Aspire SA60)
FRONT BEZEL W/ POWER BUTTON, 5.25" 3.5" EMPTY COVER, LED CABLE (S42 BEZEL)	S42 BEZEL SUB ASSY (2 FDD COVER, 2 CD-COVER)	60.S30VF.001 (Aspire SA60)
POWER BUTTON	POWER-BUTTON (PAINTED)	42.S17VF.001 (Aspire SA60)
FRONT BEZEL W/ POWER BUTTON, 5.25" 3.5" EMPTY COVER USB DOOR	S1 BEZEL ASSY	60.P04VF.001 (AcerPower S260)
POWER BUTTON (SILVER)	POWER-BUTTON (PAINTED)	42.P05VF.001 (AcerPower S260)
FRONT BEZEL W/ POWER BUTTON, 5.25" 3.5" EMPTY COVER (S44 BEZEL)	S44 bezel assy	60.P23VF.001 (AcerPower S260)
SWITCH HOLDER	SWITCH HOLDER	42.P23VF.001 (AcerPower S260)
POWER BUTTON	POWER BUTTON (ELECTRO PLANT)	42.P23VF.002 (AcerPower S260)
SIDE DOOR	LEFT SIDE COVER (PAINTED)	60.S30VF.001
SIDE DOOR	RIGHT SIDE COVER (PAINTED)	60.P05VF.002
CHASSIS W/0 I/O SHIELD	S100 SUB CASE ASSY(W/O IO SHIELD)	60.P05VF.003
I/O BRACKET	COVER SLOT	33.RC9VF.004
EMPTY COVER FOR 5.25" DEVICE	5.25" FILLER PANEL	42.S03VF.004
FILLER COVER FOR 3 1/2" DEVICE	3.5" FILLER PANEL	42.S03VF.005
I/O SHIELD	I/O SHIELD ASSY	PZ.P2308.001
RETENTION MODULE	RETENTION MODULE	42.P05VF.002

PART NAME	DESCRIPTION	P/N
FOOT STAND		
RUBBER FOOT	RUBBER FOOT	47.V02VF.701
CD-ROM DRIVE		
CD-ROM 52X LITEON LTN-529S LF BLACK	52X CD-ROM , LITEON LTN-529S , LF , BLACK COLOR	KD.05209.005
COMBO DRIVE		
COMBO DRIVE 52X HLDS GCC-4521B BLACK F/W:1.02	COMBO DRIVE 52X HLDS GCC-4521B BLACK	KO.0520A.002
COMBO DRIVE 52X HLDS GCC-4522B LF BLACK	COMBO DRIVE 52X HLDS GCC-4522B LF BLACK	KO.0520A.003
COMBO DRIVE 52X LITEON SOHC-5236K LF BLACK	COMBO DRIVE 52X LITEON SOHC-5236K LF BLACK	KO.0520B.003
DVD-ROM DRIVE		
DVD-ROM DRIVE 16X/52X HLDS GDR-8163B BLACK F/W 0120	DVD-ROM DRIVE 16X/52X HLDS GDR-8163B BLACK	KV.0160D.005
DVD-ROM 16X LITEON SOHD-16P9S LF BLACK	DVD-ROM 16X LITEON SOHD-16P9S LF BLACK	KV.01604.007
DVD-ROM 16X PIONEER DVD-123RD LF BLACK	DVD-ROM 16X PIONEER DVD-123RD LF BLACK	KV.01605.005
DVD RW DRIVE		
SUPERMULTI PLUS 16X HLDS GSA-4163B F/W A102 BLACK	SUPERMULTI PLUS 16X DVD HLDS GSA-4163B F/W A102 BLACK	KU.0160D.005
SUPER MULTI,HLDS 16X HLSD GSA-4165B LF BLACK	SUPER MULTI,HLDS 16X HLSD GSA-4165B LF BLACK	KU.0160D.007
DVD DUAL DRIVE		
DVD DUAL 16X PIONEER DVR-109RA LF BLACK F/W 1.40	16X DVD DUAL (DL), PIONEERDVR-109RA . LF , BLACK COLOR	KU.01605.002
DVD DUAL (DL) 16X LITEON SHOW-1673S BLACK	DVD DUAL (DL) 16X LITEON SHOW-1673S BLACK	KU.01604.005
DVD DUAL 16X HLDS GWA-4164B LF BLACK	DVD DUAL 16X HLDS GWA-4164B LF BLACK	KV.0160D.006
FAN SINK		
FANSINK FOR NW>=3.0G/PRESCOTT <= 3.4GHZ (SOCKET 478) FOXCONN PKP251GB1D12+DELTA FAN AFB0712	FOXCONN FAN SINK FOR NW>=3.0G OR PSC CPU (PKP251GB1D12+FAN AFB0712)	HI.2510C.001
SYSTEM 92X92X25MM 2200RPM SUNON KDE1209PTV3	SYSTEM FAN 92X92X25MM 2200RPM, KDE1209P	HI.S150F.001
FAN DUCK	FAN DUCK ASSY	PZ.P0608.002
CPU/PROCESSOR		
PRESCOTT 2.8GHZ/1M/533FSB	SL7PK, RK80546PE0721M	KC.DPE01.28B
P4 2.8G 1M 533FSB (D-1)	SL7E2, RK80546PE0721M	KC.DP001.28B
P4 2.8G 1M 533FSB	SL7D8, RK80546PE0721M	KC.DPP01.28B
CELERON D 350 (3.2G 256K 533FSB E-0)	RK80546RE088256	KC.DCE01.32B
CELERON D 345 (3.06G 256K 533FSB E-0)	SL7DN, RK80546RE083256	KC.DCE01.306
CELERON D 340 (2.93G 256K 533FSB E-0)	SL7TS, RK80546RE077256	KC.DCE01.293

PART NAME	DESCRIPTION	P/N
CELERON D 335 (2.8G 256K 533FSB E-0)	SL7NW, RK80546RE072256	KC.DCE01.28B
CELERON D 330 (2.66G 256K 533FSB E-0)	SL7NV, RK80546RE067256	KC.DCE01.266
CELERON D 350 (3.2G 256K 533FSB)	SL7DP, RK80546RE088256	KC.DCP01.32B
CELERON D 340 (2.93G 256K 533FSB)	SL7Q9, RK80546RE077256	KC.DCP01.293
CELERON D 335 (2.8G 256K 533FSB D-0)	SL7DM, RK80546RE072256	KC.DCD01.28B
CELERON D 330 (2.66G 256K 533FSB D-0)	SL7DL, RK80546RE067256	KC.DCD01.266
CELERON D 325 (2.53G 256K 533FSB D-0)	SL7DK, RK80546RE061256	KC.DCD01.253
CELERON D 335 (2.8G 256K 533FSB C-0)	SL7C7, RK80546RE072256	KC.DC001.28B
CELERON D 330 (2.66G 256K 533FSB C-0)	SL7C6, RK80546RE067256	KC.DC001.266
CELERON D 325 (2.53G 256K 533FSB C-0)	SL7C5, RK80546RE061256	KC.DC001.253
FDD/FLOPPY DISK DRIVE		
FDD 1.44MB PANASONIC JU-256A198PC BLACK	FDD,PANASONIC,JU-256A198PC BLACK	KF.25602.003
ADD-ON CARD		
VGA CARD LEADTEK GEFORCE FX5200SE/C/128MB/VGA+PAL(NZ)/ATX	VGA LEAADTEK FX5200SE 128MB	VG.521SE.128
VGA CARD GF 4M X4000/C/32MB/VGA + PAL(NZ)/HEATSINK	VGA,GF4MX4000/C/32MB,PAL,LEADTEK	VG.29304.005
VGA CARD ATI RADEON 9550 128MB 64BIT DSUB TVO+ DVI PAL ATX BRACKET SAPPHIRE 1024-HC20-0D-AC	VGA CARD ATI RADEON 9550 128MB 64BIT DSUB TVO+ DVI PAL ATX BRACKET SAPPHIRE 1024-HC20-0D-AC	VG.9550B.001
ATI RADEON 9550 128MB 64BIT DSUB TV OUT + DVI NTSC ATX BRACKET SAPPHIRE	ATI RADEON 9550 128MB 64BIT DSUB TV OUT + DVI NTSC ATX BRACKET SAPPHIRE	VG.9550B.002
VGA CARD SP ATI9250 RC26 128MB 64BIT(MEZZA) TVO+D+V PAL W/ATX BTK SAPPHIRE	GA CARD SP ATI9250 RC26 128MB 64BIT(MEZZA) TVO+D+V PAL W/ATX BTK SAPPHIRE	VG.9250B.001
VGA CARD SP ATI9250 RC26 128MB 64BIT(MEZZA) TVO+D+V NTSC W/ATX BTK SAPPHIRE	VGA CARD SP ATI9250 RC26 128MB 64BIT(MEZZA) TVO+D+V NTSC W/ATX BTK SAPPHIRE	VG.9250B.002
GEFORCE MX4000 64M/32BIT , DB3376	GEFORCE MX4000 64M/32BIT , DB3376	4221.BLD02.283
GEFORCE FX5200 128M/64BIT ,DB3360	GEFORCE FX5200 128M/64BIT ,DB3360	4221.F5200.283
MODEM CARD 56K D-1156I#/A1A WITH ATX BRACKET LITEON	MODEM CARD 56K D-1156I#/A1A WITH ATX BRACKET LITEON	FX.56I02.010
POINTING DEVICE		
CORDED MOUSE PS2 2 BUTTON WHEEL GENIUS NETSCROLL BLACK	CORDED MOUSE PS2 2 BUTTON WHEEL GENIUS NETSCROLL BLACK	MS.PSE04.008
PS2 NETSCROLL(LEAD-FREE) MOUSE-BLACK KYE	PS2 NETSCROLL(LEAD-FREE) MOUSE-BLACK KYE	MS.NET04.002
MOUSE PS/2 WHEEL ACER(002) GENIUS POWERSCROLL WHITE	GENIUS POWERSCROLL PS/2 BALL ACER(002)	MS.PSE04.003
PS/2 BALL MOUSE M-SBJ96 BLACK LOGITECH	PS/2 BALL MOUSE M-SBJ96 BLACK LOGITECH	MS.SBJ01.001

PART NAME	DESCRIPTION	P/N
PS/2 BALL MOUSE M-SBJ96 BLACK W/ STK LABEL LOGITECH	PS/2 BALL MOUSE M-SBJ96 BLACK W/ STK LABEL LOGITECH	MS.SBJ01.002
PS/2 BALL MOUSE, SBJ69, LEAD-FREE, BLACK	PS/2 BALL MOUSE, SBJ69, LEAD-FREE, BLACK	MS.SBJ01.003
PS/2 BALL MOUSE, SBJ69, LEAD-FREE, W/ STK LABEL , BLACK	PS/2 BALL MOUSE, SBJ69, LEAD-FREE, W/ STK LABEL , BLACK	MS.SBJ01.004
PS/2 OPTICAL MOUSE	PS/2 OPTICAL MOUSE	MS.PS201.001
USB OPTICAL MOUSE 2 BUTTON+WHEEL(SILVER) M-UV ACR1	USB OPTICAL MOUSE 2 BUTTON+WHEEL(SILVER) M-UV ACR1	MS.MUV01.001
USB OPTICAL MOUSE, 2 BUTTON+WHEEL (SILVER) WITH CORE AND NEW CABLE LOGITECH	MOUSE USB OPTICAL W/CORE BK LOGITECH	MS.MUV01.002
USB OPTICAL MOUSE MUV-ACR1 W/ STK LABEL LOGITECH	USB OPTICAL MOUSE MUV-ACR1 W/ STK LABEL LOGITECH	MS.MUV01.003
USB OPTICAL MOUSE, MUV ACR1(BLACK),LEAD-FREE	USB OPTICAL MOUSE, MUV ACR1(BLACK),LEAD-FREE	MS.MUV01.004
USB OPTICAL MOUSE, MUV ACR1, LEAD-FREE, W/ STK LABEL LOGITECH	LOGITECH USB OPTICAL MOUSE, MUV ACR1, LEAD-FREE, W/ STK LABEL	MS.MUV01.005
MOUSE USB WHEEL OPTICAL POWERSCROLL EYEUSB ACER (002) GENIUS WHITE	MOUSE USB WHEEL OPTICAL POWERSCROLL EYEUSB ACER (002)	MS.PSE04.001
CORDED MOUSE USB WHEEL STANDARD GENIUS BLACK	MOUSE SCROLL WHEEL USB BK KYE ACER	MS.PSE04.007
MOUSE USB WHEEL STANDARD POWERSCROLL ACER (002) GENIUS	MOUSE USB WHEEL STANDARD POWERSCROLL ACER (002)	MS.PSE04.004
KEYBOARD		
KEYBOARD US PS/2 LITEON SK1688	KEYBOARD US PS/2 LITEON SK1688	KB.6880B.001
KEYBOARD T.CHINESE PS/2 LITEON SK-1688	KEYBOARD T.CHINESE PS/2 LITEON SK-1688	KB.6880B.002
PS/2 KEYBOARD, KBP2971, US VER., 104KEYS	PS/2 KEYBOARD, KBP2971, US VER., 104KEYS	KB.KBP03.066
PS/2 KEYBOARD, KBP2971, T.CHINESE VER., 104KEYS	PS/2 KEYBOARD, KBP2971, T.CHINESE VER., 104KEYS	KB.KBP03.067
PS/2 KEYBOARD, KBP2971,BLACK, S.CHINESE VER., 104KEYS	PS/2 KEYBOARD, KBP2971,BLACK, S.CHINESE VER., 104KEYS	KB.KBP03.125
PS/2 KEYBOARD, KBP2971, THAI VER., 104KEYS	PS/2 KEYBOARD, KBP2971, THAI VER., 104KEYS	KB.KBP03.069
PS/2 KEYBOARD, KBP2971, CANADIAN/ FRENCH VER., 105KEYS	PS/2 KEYBOARD, KBP2971, CANADIAN/ FRENCH VER., 105KEYS	KB.KBP03.072
PS/2 KEYBOARD, KBP2971, SPANISH VER., 105KEYS	PS/2 KEYBOARD, KBP2971, SPANISH VER., 105KEYS	KB.KBP03.083
USB KB(SILVER), KU0355, US VER., 104KEYS	USB KB(SILVER), KU0355, US VER., 104KEYS	KB.KUP03.034
USB KB(SILVER), KU0355, T.CHINESE VER., 104KEYS	USB KB(SILVER), KU0355, T.CHINESE VER., 104KEYS	KB.KUP03.035
USB KB (SILVER), KU0355, THAI VER., 104 KEYS	USB KB (SILVER), KU0355, THAI VER., 104 KEYS	KB.KUP03.038
USB KB (SILVER), KU0355, SPANISH VER., 105 KEYS	USB KB (SILVER), KU0355, SPANISH VER., 105 KEYS	KB.KUS03.002

PART NAME	DESCRIPTION	P/N
USB KEYBOARD, KU0355, CANADIAN/ FRENCH VER., 105KEYS	USB KEYBOARD, KU0355, CANADIAN/ FRENCH VER., 105KEYS	KB.KUS03.009
HDD/HARD DISK DRIVE		
HDD 40GB 7200RPM SEAGATE ALPINE/ BPA ST340014A	HDD 40GB 7200RPM SEAGATE ALPINE/BPA ST340014A	KH.04001.011
HDD 80GB 7200RPM SEAGATE ALPINE/ BPA ST380011A	HDD 80G 7200 ALPINE/BPA SEAGATE	KH.08001.008
HDD 120GB 7200RPM SEAGATE ALPINE/ BPA ST3120022A	HDD 120GB 7200RPM SEAGATE ALPINE/BPA ST3120022A	KH.12001.010
HDD 160GB 7200RPM SEAGATE ALPINE/ BPA ST3160021A	HDD 160GB 7200RPM SEAGATE ALPINE/BPA ST3160021A	KH.16001.009
HDD 200G 7200RPM XL80II WD2000BB-22GUC0 ROHS 2MB F/W C0	HDD 200G 7200RPM XL80II WD2000BB-22GUC0 ROHS 2MB F/W C0	KH.20008.009
HDD 160G 7200RPM WD XL80II WD1600BB-22GUC0 ROHS 2MB F/W C0	HDD 160G/7200RPM WD1600BB-22GUC0 WD	KH.16008.009
HDD 120G 7200RPM XL80II WD1200BB-22GUC0 ROHS 2MB F/W C0	120G WD 3.5" 7200RPM XL80II WD1200BB-22GUC0 ROHS 2MB, F/W C0	KH.12008.009
HDD 80G 7200RPM XL80SDII WD800BB-22JHC0 ROHS 2MB F/W C0	80G WD 3.5" 7200RPM XL80SD II WD800BB-22JHC0 ROHS 2MB, F/W C0	KH.08008.017
HDD 40G 7200RPM XL80SDII WD400BB-22JHC0 ROHS 2MB F/W C0	40G WD 3.5" 7200RPM XL80SD II WD400BB-22JHC0 ROHS 2MB, F/W C0	KH.04008.017
MAINBOARD		
MB SIS661GX/964L/2DIMM/3PCI/1AGP W/I RM & I/O SHIELDING	MB SIS661GX/964L/2DIMM/3PCI/1AGP W/I RM & I/O SHIELDING	MB.P2309.001
MEMORY		
MEMORY DDR 400 256MB PQI MDAD-302HA	MDAD-302HA	KN.2560K.001
MEMORY DDR 400 512MB PQI MDAD-402HA	MDAD-402HA	KN.5120K.001
MEMORY DDR 400 256MB SUPER ELIXIR M1U25664DS88C3G-5T	M1U25664DS88C3G-5T	KN.25603.021
MEMORY DDR 400 512MB SUPER ELIXIR M1U51264DS8HC3G-5T	M1U51264DS8HC3G-5T	KN.51203.019
MEMORY DDR 400 256MB NANYA NT256D64S88C0G-5T (0.11) 32MX8	NT256D64S88C0G-5T (0.11)	KN.25603.016
MEMORY DDR 400 512MB NANYA NT512D64S8HC0G-5T (0.11U) 32MX8	NT512D64S8HC0G5T (0.11 U)	KN.51203.013
MEMORY DDR 400 256MB HYNIX HYMD232646D8R-D43PQ	HYMD232646D8R-D43PQ	KN.2560G.003
MEMORY DDR 400 512MB HYNIX HYMD264646D8R-D43PQ	HYMD264646D8R-D43PQ	KN.5120G.002
MEMORY DDR 400 1GMB INFINEON HYS64D128320HU-5-B	HYS64D128320HU-5-B	KN.1GB02.008
MEMORY DDR 400 256MB INFINEON HYS64D32300HU-5-C (.11U/GREEN)	HYS64D32300HU-5-C (.11U/GREEN)	KN.25602.013
MEMORY DDR 400 512MB INFINEON HYS64D64320HU-5-C (.11U/GREEN)	HYS64D64320HU-5-C (.11U/GREEN)	KN.51202.012
MEMORY DDR 400 128MB APACER	128MB DDR401 PSC CHIP	75.7449C.571

PART NAME	DESCRIPTION	P/N
MEMORY DDR 400 256MB APACER	256MB DDR400 PSC CHIP	77.10639.53G
MEMORY DDR 400 512MB APACER	512MB DDR400 PSC CHIP	77.10739.53G
POWER SUPPLY		
POWER SUPPLY ATX2500-65PC(PF), 200W PFC SPS	SPS,FSP200-ATV(A)(PF)	PY.18008.001
POWER SUPPLY 230W W/O PFC FSP FSP200-ATV(A)	POWERSUPPLY-FSP230-60ATV	PY.23008.003
POWER SUPPLY 230W W PFC FSP 200-ATV(A)(PF)	POWERSUPPLY-FSP230-60ATV-PF	PY.23008.004
SCREW		
FDD, USB BOARD SCREW	SCREW M3*6(FDD,USB BOARD,OPTICAL DRIVE)	86.PSPVF.001
SCREW#6-32UNC	SCREW#6-32UNC	86.RC9VF.001
SCREW #6-32	SCREW #6-32	86.P05VF.001
SCREW FOR FAN	SCREW FOR FAN	86.P06VF.001
SPEAKER		
SPEAKER USB 3" *2 NEOSONICA 510 THYME510 WHITE	SPEAKER,USB 3" *2, 510,NEOSONICA	SP.51004.001
SPEAKER USB 3" *2 NEOSONICA THYME510 BLACK	SPEAKER,USB 3"FULL RANG CONE,THYME510	SP.51004.003
SPEAKER 2.0 USB M-1118B ACER LOGO	2.0 SPEAKER, USB, M-1118B, ACER LOGO	SP.11805.001
SPEAKER 2.0 USB M-1118B ACER LOGO W/STK LABEL	2.0 SPEAKER, USB, M-1118B, ACER LOGO, WITH STK LABEL	SP.11805.002